Cyberjustice is a term that refers to the incorporation of technology into the justice system, either through offering court services electronically or through the use of electronics within courtrooms or for other dispute resolution purposes. One of the most crucial goals of Cyberjustice is increasing access to justice through both reducing the costs associated with administering justice as well as reducing the burden of the judges and the court system as a whole.
Cyberjustice: An Overview

Sarit K. Mizrahi
Introduction

Efforts towards the integration of technology into the justice system has increased over recent years in an attempt, not only to make justice more accessible by the masses through a reduction of costs, but also to reduce the severe backlog that court systems around the word by using electronics to quickly and efficiently resolve disputes between parties.

This incorporation of technology into the justice system has come to be referred to by the term “Cyberjustice.” Cyberjustice is characterized by three main features:

"first, a software application that automates certain functions, models the relevant procedural framework (rules concerning domain names, for example) and offers an interface from which all the steps of a procedure can be performed and all evidence stored, transmitted and managed; second, permanent online technical support; and third, a network of neutral third parties recognized for their expertise in the relevant area. These essential features are used in online negotiation, mediation, conciliation and arbitration. Other features are of course added when the government decides to invest in cyberjustice by offering e-filing and case management systems." ¹

Cyberjustice thus involves the use of technology for the administration of justice, entailing the utilization of systems created through "the conjunction of different modules designed to achieve a global purpose"². These various modules consist of technological legal services such as electronic filing and case management systems, courtroom tele-immersion technologies, automated court reporting, digital audio and video recording systems, and several other technologies that may efficiently serve the justice system and which may be used for the purposes of Alternative Dispute Resolution (or Online Dispute Resolution) or in courtrooms themselves.

Although some consider that the differing logical bases for technology and law, namely functionality and legality respectively, result in a conflicting relationship between the two, it remains that the use of technology for the practice and administration of justice has several benefits³, not the least of which is an increased access to justice. In an effort to demonstrate the extent of these benefits, the present article will offer a general overview of the domain of Cyberjustice as a whole by (1) first outlining the different facets of Cyberjustice, as well as (2) the various technologies used within the court system. Finally, it will (3) illustrate the initiatives taken by various judicial systems worldwide towards the implementation of technology into their legal system.

1. The Facets of Cyberjustice

Cyberjustice is a multi-faceted term that encompasses a number of elements, including (1) increased access to justice, (2) the availability of various electronic services in the justice system, (3) the accessibility of online dispute resolution, and (4) the existence of “cyber courtrooms,” all of which will be explained in more detail in this section.

1.1 Increased Access to Justice

Not only is access to justice considered to be an essential human right, but justice must be administered within a certain minimal timeframe in order for that right to be properly respected\(^4\). With the advent of technology increasing the speed with which we function in society, juridical time is necessarily hastened as well\(^5\). Many believe that the use of modern technology within the confines of the court system serves to speed up the judicial proceedings\(^6\), thus essentially increasing access to justice by accelerating the time it takes for individuals to receive their day in court, and as a result, decreasing the backlog that generally tends to characterize the court system\(^7\). That having been said, it has often been questioned as to whether the simple use of technology could effectively serve to speed up judicial proceedings, or whether the inherent nature of legal processes and customs necessarily entail lengthy proceedings regardless of whether or not technology is employed for these purposes\(^8\).

Accelerating the speed with which cases are heard, however, is not the only way in which access to justice may be increased. The use of technology can essentially be used to render it simpler for certain individuals to exercise their right to be heard, such as those who are part of the deaf community\(^9\). Modern technology has multiplied the manners in which deaf individuals may communicate, such as through "[v]ideo-based technologies, [which] allow individuals to communicate across the globe using a natural, visual language"\(^10\). The use of these types of technologies in the context of dispute resolution thus serves to increase access to justice to deaf individuals by providing them with additional means of communication.

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\(^5\) Id., 2.
\(^6\) G. LUPO and J. BAILEY, prev. cited, note 3, 354.
\(^8\) Philippe GILLIERON, "From Face-to-Face to Screen-to-Screen: Real Hope or Tue Fallacy?", (2007-08) 23 Ohio St. J. on Disp. Resol. 301, 315.
\(^10\) Id.
1.2 Electronic Services in the Justice System

While Cyberjustice has not yet been implemented to its fullest extent into many legal systems, the most common electronic legal services that are offered by numerous judicial systems around the world include (1) electronic filing, (2) electronic access to court records, (3) electronic discovery and (4) online access to court decisions.

1.2.1 Electronic Filing

Most electronic filing systems make use of a secure, Internet-based system that allows the parties of a dispute or their legal representatives to file court documents electronically.\(^\text{11}\) Not all such systems are the same, however, essentially varying with respect to several aspects such as the program or service provider used, the format of the documents that can be filed and the level of security offered. The following table is a summary of the various electronic filing services offered, as well as their characteristics, in different jurisdictions across Canada, the United States and Australia.

<table>
<thead>
<tr>
<th>Country</th>
<th>Court</th>
<th>Program Used or Service Provider</th>
<th>Format of the Document</th>
<th>Functions</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>CANADA</td>
<td>Federal Court of Canada(^\text{12})</td>
<td>Internal Program (on their website)</td>
<td>PDF</td>
<td>- Possibility of identifying a document being filed as urgent</td>
<td>- Can only file notice of appeal, demand of time extension to file an appeal, notice of intent, change of address, change of counsel consent to judgment</td>
</tr>
<tr>
<td></td>
<td>Tax Court of Canada(^\text{13})</td>
<td></td>
<td>Electronic filing is done through an interactive HTML form</td>
<td>- Maximum size of a single document is 1 MB and total size of documents that can be filed is 3 MB</td>
<td>- Do not need to be a</td>
</tr>
</tbody>
</table>

\(^{11}\) FEDERAL COURT OF CANADA, "E-Filing", online: <http://cas-ncr-nter03.cas-satj.gc.ca/portal/page/portal/fc_cf_en/E-Filing> (consulted on March 10, 2015); N. W. VERMEYS, prev. cited, note 7, 5.

\(^{12}\) FEDERAL COURT OF CANADA, "System of Electronic Filing of the Federal Court", online: <https://efiling.fct-cf.gc.ca/efiling/hme?1> (consulted on March 10, 2015); See also: N. W. VERMEYS, Id.

\(^{13}\) TAX COURT OF CANADA, "Electronic Filing", online: <http://cas-ncr-nter03.cas-sati.gc.ca/portal/page/portal/tcc-cci_Eng/Electronic_Filing> (consulted on February 5, 2015); See also: N. W. VERMEYS, Id.
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<tr>
<th>Country</th>
<th>Court</th>
<th>Program Used or Service Provider</th>
<th>Format of the Document</th>
<th>Functions</th>
<th>Additional Information</th>
</tr>
</thead>
</table>
| CANADA | Provincial Court and Supreme Court of British Columbia<sup>14</sup> | Court Services Online | PDF (with a resolution of minimum 300 points per inch or less) | - Possibility of identifying a document being filed as urgent  
- Maximum size of document is 8 MB  
- Electronic signature is accepted | - Available for most documents in the Supreme Court regarding civil matters and in the provincial Small Claims Courts  
- If a mistake was made in the document, the clerk gives a courtesy delay of two days to correct it |
| CANADA | Small Claims Courts of Newfoundland and Labrador<sup>15</sup> | Internal Program (on their website) | The Statement of Claim consists of a form that must be completed directly on the website. Any evidence submitted as documents and attached thereto must be in PDF, JPEG or JPG format | - Availability of a "Petition Wizard" that issues 5 questions that a user must respond to and depending on the response given, the system will select the appropriate petition for his or her needs | |
| CANADA | Supreme Court of Newfoundland and Labrador (for probate, administration and guardianship)<sup>16</sup> | Internal Program (on their website) | It is in the format of a form that must be completed directly on the website | - For the applications made in conformity with the dispositions of the Charter of Rights and Freedoms | |
| | Provincial Court of Alberta in the criminal division of | Internal program (on their website) | PDF or .wpd (but PDF is suggested for reasons of security and document size) | | |

<sup>14</sup> BRITISH COLUMBIA, MINISTRY OF JUSTICE, "Court Services Online - e-Filing: Frequently Asked Questions", online: <https://justice.gov.bc.ca/cso/about/E-Filing_and_Frequently_Asked_Questions.pdf> (consulted on March 10, 2015).


<table>
<thead>
<tr>
<th>Country</th>
<th>Court</th>
<th>Program Used or Service Provider</th>
<th>Format of the Document</th>
<th>Functions</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>CANADA</td>
<td>Calgary, the regional division of Calgary and the Criminal division of Edmonton ¹⁷</td>
<td></td>
<td>PDF (the documents must contain a password to prevent their modification and they must also be signed using an invisible electronic signature)</td>
<td>- Possibility of modifying one's own documents</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Court of Appeal of Alberta ¹⁸</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNITED STATES</td>
<td>Judicial Branch of Connecticut ¹⁹</td>
<td>ePortal (Cisco WebEx)</td>
<td>PDF</td>
<td>- Use of encryption, firewalls and secure socket layer as informational security measures</td>
<td>Accessible to lawyers and to parties that represent themselves</td>
</tr>
<tr>
<td></td>
<td>The Courts of Florida ²⁰</td>
<td></td>
<td>Can be Word, Word Perfect or PDF but the portal will convert all documents into PDF (or TIFF is required)</td>
<td>- Maximal size of documents is 25 MB</td>
<td>- The electronic filing of documents is obligatory in all courts in Florida</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- The documents submitted must fulfill certain format requirements to ensure that they will be accessible to the blind</td>
<td>- Documents that contain confidential information must be accompanied by a notice of confidential information</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Country</th>
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<th>Functions</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNITED STATES</td>
<td>Certain District Courts, County Courts, Probate Courts, Courts of Justice and Courts of Appeal of Texas(^{21})</td>
<td>eFile.TXCourts.gov</td>
<td>PDF</td>
<td>- Access to stamped copies of filed documents&lt;br&gt;- Document tracking and proof of delivery</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Court File America</td>
<td>PDF</td>
<td>- Word research is activated in the PDF documents in this system&lt;br&gt;- Possibility of activating a credit account&lt;br&gt;- Creation of personalized invoices&lt;br&gt;- Monthly reports</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>File Time</td>
<td>PDF</td>
<td>- Possibility of filing documents in Word format (or other text format) and the system will convert it to PDF&lt;br&gt;- Free fax system</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>iDocket</td>
<td>PDF</td>
<td>- Access to judicial information online&lt;br&gt;- Possibility of tracking files of interest&lt;br&gt;- Possibility of filing documents in Word format (or other text format) and the system will convert it to PDF&lt;br&gt;- Access to file-</td>
<td></td>
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</tbody>
</table>

\(^{21}\) EFILETEXAS.GOV, online: <http://www.efiletexas.gov/index.htm> (consulted on March 10, 2015).
### Electronic Filing Systems

<table>
<thead>
<tr>
<th>Country</th>
<th>Court</th>
<th>Program Used or Service Provider</th>
<th>Format of the Document</th>
<th>Functions</th>
<th>Additional Information</th>
</tr>
</thead>
</table>
| United States |                            |                                  |                        | stamped copies of documents  
- Possibility of tracking documents filed  
- Respects state, national and industrial security standards  
- Possibility of limiting access to sensitive documents  
- Possibility of putting documents under seal  
- Possibility of programming alerts for certain events  
- Security level conforms to that which is required by the court  
- Word search is activated in the PDF documents in this system  
- SaaS solution accessible by Internet                                                                                                                                                                                                                           |                        |
| United States |                            | eLawServices                      | PDF (can support other document formats but the system will convert it automatically to PDF) | - Possibility of limiting access to sensitive documents  
- Possibility of putting documents under seal  
- Possibility of programming alerts for certain events  
- Security level conforms to that which is required by the court  
- Word search is activated in the PDF documents in this system  
- SaaS solution accessible by Internet                                                                                                                                                                                                                           |                        |
| United States |                            | File & ServeXpress                | PDF (can support other formats (Word, Word Perfect, HTML, .rtf, .txt) of documents but the system will automatically convert it to PDF) | - Maximal size of documents is 4 MB                                                                                                                                                                       |                        |
| United States |                            | MyFileRunner                      | PDF (with a minimum resolution of 200 points per inch) | - Maximal size of documents is 4 MB                                                                                                                                                                       |                        |

Supreme Court of Nevada<sup>22</sup>  
<http://nvcourts.gov/Supreme/How_Do_I/Training/E-Filing_Instructions/> (consulted on March 10, 2015);

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<sup>22</sup> Supreme Court of Nevada, "E-Filing Instructions", online: <http://nvcourts.gov/Supreme/How_Do_I/Training/E-Filing_Instructions/> (consulted on March 10, 2015);
<table>
<thead>
<tr>
<th>Country</th>
<th>Court</th>
<th>Program Used or Service Provider</th>
<th>Format of the Document</th>
<th>Functions</th>
<th>Additional Information</th>
</tr>
</thead>
</table>
| UNITED   | The Court of Common Pleas and the Justice of the Peace Court of Delaware | eFLEX (Tybera)                  | PDF                    | of documents is 4 MB                                                                               | criminal appeals and writ petitions  
- Only accessible by lawyers and judges of the Supreme Court that deal with settlements and to the clerks  
- Sealed documents and confidential documents cannot be filed electronically |
| STATES    | Supreme Court of Delaware, the Superior Court of Delaware and the Court of Chancery of Delaware | File & ServeXpress (LexisNexis) | PDF (can support other formats of documents but the system will automatically convert it into a PDF) | - Maximal size of documents is 2 MB for the Court of Common Pleas and 1 MB for Justice of the Peace Courts  
- Accepts electronic signatures (except for documents that require the testimonial of a notary) | - SaaS solution accessible by Internet |

SUPREME COURT OF NEVADA, "Nevada Supreme Court Training Sessions", online:  

23 DELAWARE STATE COURTS, "Electronic Filing in the Delaware Judiciary: Delaware eFLEX", online:  
<http://courts.delaware.gov/efiling/> (consulted on March 10, 2015); DELAWARE STATE COURTS, "E-Filing in the State of Delaware: Court of Common Pleas & Justice of the Peace Courts", online:  

24 DELAWARE STATE COURTS, "Supreme Court e-Filing", online:  

25 DELAWARE STATE COURTS, "Technology in Superior Court: E-Filing", online:  
<table>
<thead>
<tr>
<th>Country</th>
<th>Court</th>
<th>Program Used or Service Provider</th>
<th>Format of the Document</th>
<th>Functions</th>
<th>Additional Information</th>
</tr>
</thead>
</table>
| UNITED STATES    | Federal Court of Australia, Family Tribunal of Australia, and Federal Circuit Court of Australia | eLodgment                       | .doc, .docx, PDF, .rtf, .xls, .xlsx, .jpg, .gif, and .tif | - Word search is activated in the PDF documents in this system | - Maximal document size of 10 MB  
- Possibility of researching information on legal search engines  
- Can only be used by lawyers, government departments and local municipalities |
| AUSTRALIA        | Supreme Court of Victoria, the Magistrates' Court of Victoria, and the County | CITEC Confirm                    | PDF (using ZIP files to increase the informational security of documents) | - Use of 128 bit SSL to ensure information security  
- Document tracking  
- Automatic | - Available only for civil recourses at the Supreme Court of Victoria  
- Only legal firms or agencies can use it at the Supreme Court of Victoria |

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1.2.2 E-Access to Court Records

The possibility of making court records available online has been a subject of much discussion and debate in recent years and several different solutions for electronic access to court records have been proposed and implemented throughout (1) the United States and (2) Canada.

1.2.2.1 United States

The United States has instated Public Access to Court Electronic Records (PACER), which serves to provide public access to court records from federal appellate, district and bankruptcy courts\(^{31}\). Additionally, many state and local courts offer solutions for electronic access to their records. Several\(^ {32}\) employ the services of CourtView Justice Solutions\(^ {33}\) to this effect, though


\(^{31}\) PACER PUBLIC ACCESS TO COURT ELECTRONIC RECORDS, online: <https://www.pacer.gov/> (consulted on March 10, 2015).

\(^{32}\) See, for example: 16TH JUDICIAL CIRCUIT COURT MACOMB COUNTY PROBATE COURT, online: <http://courtpa.macombgov.org/eservices/?x=rc3Wc8QIqXHL3EvooakA2RhNsNryyHIQVfCi3AcPMepel2QvXH eDMStclzI5Ohh>; KANKAKEE COUNTY, online: <http://173.165.39.26/eservices/search.page.3?x=mFSAZzz18NVJ-Sr6PLasHg>; OHIO DEFIANCE COUNTY CLERK OF COURTS, online: <http://defiancelerlofcourts.com/eservices/home.page.4>; SUPERIOR COURT OF CALIFORNIA, COUNTY OF NEVADA ELECTRONIC RECORDS ACCESS, online: <http://eaccess.nevadacountycourts.com/eservices/home.page.2>; GALLIPOLIS MUNICIPAL COURT AND GALLIA COURT OF COMMON PLEAS, online: <http://eaccess.gallianet.net/eservices/home.page.2>; ALASKA COURT SYSTEM, "CourtView Online Information", online: <http://courts.alaska.gov/cvinfo/> (consulted on March 11, 2015); GREEN COUNTY, online: <http://courts.co.greene.oh.us/eservices/home.page.2>; RICHLAND COUNTY COURT OF COMMON PLEAS, GENERAL AND DOMESTIC RELATIONS DIVISIONS, online: <http://richlandcourtsoh.us/eservices/home.page.2>; FAIRFIELD COUNTY, online:
often holding that the information found online does not consist of the official court record thus maintaining that the data found in the written record supersedes anything found online. Each court, however, generally has its own CourtView page through which their records may be accessed and each court thus subjects users to its own conditions and limitations. For example, the Superior Court of California, County of Nevada, specifies that the only information obtainable through their portal is (1) party and attorney information, (2) court docket (record of documents filed, hearings held and scheduled, etc.) case disposition and financial information (record of court fees and fines owed and paid)34. Additionally, information about confidential cases is often not available on this forum35, though other means of obtaining such information may be available by contacting the court where the case was filed36. Certain courts take specific precautions in regards to cases involving Domestic Violence Protection Orders and Civil Stalking or Sexually Oriented Offense Protection Orders so as to prevent the exposition of the names and locations of individuals involved in such affairs with the aim of protecting their identity and person37.

Several other county and state courts have created their own system for access to electronic court records and implemented it into its website. King County38, for example, has created their ECR (Electronic Court Records) Online system for which Harvard University issued them the "Innovation in American Government"39 in addition to granting them $100,000 for the promotion of the replication of their program in other government institutions. King County's ECR Online only provides access to (1) adult criminal cases, (2) civil cases (except for ones involving domestic violence and harassment) and (3) probate cases (except for those regarding guardianship matters)40. Other examples of state and county courts that have created their own online court records databases enabling electronic access are, for example, Maricopa County41, the Massachusetts Court System42 and Florida's First District Court of Appeal43.

<http://courtview.co.fairfield.oh.us/eservices/home.page.2>; TIPPECANOE COUNTY INDIANA, online: <http://www.tippecanoe.in.gov/eGov/apps/services/index.egov?view=detail;id=55> (consulted on March 11, 2015).
34 SUPERIOR COURT OF CALIFORNIA, COUNTY OF NEVADA ELECTRONIC RECORDS ACCESS, online: <http://eaccess.nevadacountycourts.com/eservices/home.page.2>.
35 SUPERIOR COURT OF CALIFORNIA, COUNTY OF NEVADA ELECTRONIC RECORDS ACCESS, prev. cited, note 32.
36 ALASKA COURT SYSTEM, prev. cited, note 32.
37 GREEN COUNTY, prev. cited, note 32; FAIRFIELD COUNTY, prev. cited, note 32.
39 Roger WINTERS, "Electronic Court Records (ECR) at King County Wins "Innovation in American Government" Award from Harvard", December 17, 2007, online: <http://ecourtcourtrecords.blogspot.ca/> (consulted on March 10, 2015).
40 KING COUNTY, prev. cited, note 38.
41 MARICOPA COUNTY SUPERIOR COURT, "ECR Online", online: <https://ecr.clerkofcourt.maricopa.gov/login.aspx> (consulted on March 11, 2015).
On the Canadian front on the other hand, while the theoretical adoption of these types of systems has been discussed at length between various legal associations throughout Canada, very few courts have adopted such a system to its fullest extent. The Supreme Court of Canada, for example, makes remotely available to the public only those electronic versions of factums on appeal filed on or after February 9, 2009. This is, however, subject to certain conditions. To begin with, the factum must not be subject to any limitation on access by court order or law. Furthermore, any factums that are required to be redacted (so as to omit information subject to a publication ban, information subject to a sealing order, information classified as confidential and any personal data identifiers and personal information that, if combined with the individual's name and made widely accessible to the public, could pose a serious threat to the individual's personal security) will only be remotely available in their redacted form. Additionally, webcasts of appeal hearings on or after February 9, 2009, provided that the digital recording of the appeal hearing is available and is not subject to any limitation on access by court order or law.

To provide another example of a limited use of systems allowing for the electronic access to court records, the Court of Appeal for Saskatchewan has an e-filing system that makes it possible for members of the public to do a name search which would give them access only to the file number, style of cause and the filing date of the Notice of Appeal, but not to the entire Court record. It must, however, be noted that any data in relation to sealed files, family law files (including The Adoption Act, The Child and Family Services Act) and The Youth Criminal Justice Act are not searchable by name, nor are parties or their lawyers permitted online access to the electronic court file.

Presently, it is only the Canadian Tax Court, Federal Courts of Canada, the Court of Appeal and the Court of Queen's Bench in Manitoba and the Courts of British Columbia that have...
actually implemented a fully functional system that allows the public to remotely access documents filed in court proceedings. To begin with, in Manitoba, electronic access to court records is provided only with regards to Court of Appeal and the Court of Queen's Bench files regarding civil, family and adult criminal proceedings\(^{51}\) and it is only the following information that is accessible in such a manner:

- The file number of the case and the title of the proceedings;
- A list of all the documents filed in conjunction with a case;
- The number associated with the document and the date it was filed with the court;
- The name of the document and a short note regarding its content;
- Names of the parties and their lawyers;
- Lawyer’s contact information;
- When the next court hearing in the proceeding will take place;
- Any related court files that are referred to;
- availabilities of the court for the purposes of scheduling matters to be heard;
- A list of hearings to take place each day in various court locations throughout Manitoba; and
- Tables outlining prejudgment and post judgment interest from April 1993.\(^{52}\)

Additionally, any court records accessible electronically are submitted to the same limitations on accessibility as traditional paper documents. In this light, the following court record information can therefore not be electronically accessed by the public:

- Applications for wiretaps, as well as any material submitted in support of said application and any order made to this effect;
- Information relating to summons which have either not been effectd, served, or issued or were denied, as well as data dealing with warrants which have not yet been executed;
- Data relating to a search warrant where a report was not filed and the search was not fruitful;
- List of jury members as well as the current Jurors’ Roll;
- Information regarding resolution conference memoranda in criminal matters;
- Briefs relating to pre-trial, case conferences, and Judicially Assisted Dispute Resolution;
- Statement regarding the management of case data;
- All information contained in a youth court record, an adoption court record or a child protection court record; and

\(^{49}\) FEDERAL COURT OF CANADA, "Records of the Federal Court of Appeal, the Federal Court and the Court Martial Appeal Court of Canada now available on-line", online: <http://cas-ncr-nter03.cas-satj.gc.ca/portal/page/portal/fc.cf_en/Records_on-line> (consulted on March 10, 2015).


\(^{51}\) At this time there is no electronic access to Provincial Court records.

\(^{52}\) MANITOBA COURTS, prev. cited, note 50.
Any data that has been sealed by a court order.\textsuperscript{53}

Furthermore, the following court record information may only be accessed by the public after it has been submitted as evidence in the court proceeding:

- The assessment, pre-sentence and expert evidence reports;
- The book of exhibits submitted prior to trial;
- The examination for discovery transcripts;
- The statement relating to victim impact;
- Any other data specified by a judge.\textsuperscript{54}

The system adopted by the Courts of British Columbia, on the other hand, renders available information about a court file entered by court registry staff, including the details about the nature of the claim or proceeding, the parties, documents filed, hearings, and results online.\textsuperscript{55} It must be noted, however, that reasons for judgment generally do not include personally identifiable information such as date and month of birth, social insurance numbers, telephone numbers or financial information.\textsuperscript{56}

Additionally, reasons of privacy require the protection of certain files, which are therefore subject to restrictions regarding their accessibility. For these reasons, there is no access to Provincial Court family court matters, Supreme Court criminal matters and Supreme Court adoption matters.\textsuperscript{57} Additionally, any Supreme Court family matters or any Supreme or Provincial Court files issued with a publication ban are subject to limited access.\textsuperscript{58}

To this effect, any data subject to publication bans may be initialed or redacted by the Court in its reasons and the grounds for said publication ban will always be outlined.\textsuperscript{60} As such, judicial decisions will generally not be redacted after they have been released or published, but rather

\textsuperscript{53} \textit{Id.}
\textsuperscript{54} \textit{Id.}
\textsuperscript{55} \textbf{BRITISH COLUMBIA}, "Court Services Online", online: <https://justice.gov.bc.ca/cso/index.do> (consulted on March 10, 2015).
\textsuperscript{57} \textbf{BRITISH COLUMBIA}, "About CSO", online: <https://justice.gov.bc.ca/cso/about/index.do> (consulted on March 10, 2015).
\textsuperscript{58} \textbf{BRITISH COLUMBIA}, "What is Court Services Online?", online: <http://www.justiceeducation.ca/themes/framework/documents/Overview_of_Court_Services_Online.pdf> (consulted on January 15, 2014).
\textsuperscript{59} Limited access essentially means that the only information available is the following: the file number, the style of cause and the date the file was opened.
\textsuperscript{60} \textbf{THE COURTS OF BRITISH COLUMBIA}, prev. cited, note 56.
requires counsel and litigants to positively identify any data that may be subject to a publication
ban either before or during the hearing.\footnote{Id.}

On a final note, and while this does not necessarily provide any indication of a standard that
ought to be adopted by a Canadian province seeking to adopt a similar system, the Judges
Technology Advisory Committee of the Canadian Judicial Council has drafted a "Model Policy
for Access to Court Records in Canada"\footnote{online: <https://www.cjc-ccm.gc.ca/cmslib/general/news_pub_techissues_AccessPolicy_2005_en.pdf> (consulted on January 15, 2014)} that may be consulted by Canadian courts who wish to
create a system that provides electronic access to court records.

\textbf{1.2.3 E-Discovery}

The term "e-discovery" refers to "the preservation, retrieval, exchange and production of
documents from electronic sources in electronic form"\footnote{EDISCOVERY GUIDELINES, "Guidelines for the Discovery of Electronic Documents in Ontario", online:<http://www.oba.org/En/pdf_newsletter/E-DiscoveryGuidelines.pdf> (consulted on March 10, 2015).} and is essentially the electronic equivalent of traditional discovery obligations. Essentially, any information relevant to a
particular case is subject to discovery, and this is no different when it comes to documents in
electronic format.\footnote{Lisa M. ARENT, Robert D. BROWNSTONE and William A. FENWICK, "Ediscovery: Preserving, Requesting and Producing Electronic Information", (2002) 19 Santa Clara High Tech. L.J. 131, 133.} Various solutions for e-discovery have been implemented in both (1) the
United States and (2) Canada.

\textbf{1.2.3.1 United States}

The United States amended their Federal Rules of Civil Procedure (FRCP) to include
dispositions governing e-discovery, following which many states enacted legislation to this
effect.\footnote{See for example: Id.} The Federal dispositions essentially require that any non-privileged information be
produced regardless of whether a request for discovery was initiated.\footnote{Federal Rules of Civil Procedure, Rule 26(a)(1).} Although the retrieval of
information is generally easier when it is stored electronically, the federal amendments take into
account that there are instances in which the retrieval of electronic information may be more
difficult and impose unreasonable burdens on a party and thus states that under these
circumstances such data is not subject to discovery.\footnote{Id., Rule 26(b)(2). \textit{Federal Rules of Civil Procedure, "Committee Notes on Rules - 2006 Amendment, Subdivision (b)(2)", online:<https://www.law.cornell.edu/rules/frcp/rule_26> (consulted on March 15, 2015).} \textit{Federal Rules of Civil Procedure, "Committee Notes on Rules - 2006 Amendment, Subdivision (b)(2)", Id.} That information must still, however, be
preserved in accordance with common-law or statutory requirements for the preservation of
evidence\footnote{Gavin FOGGO, Suzanne GROSSO, Brett HARRISON and Jose Victor RODRIGUEZ-BARRERA, "Comparing E-Discovery in the United States, Canada, the United Kingdom, and Mexico", p. 2, online:} and a party may be placed in the position of proving that the electronic data that they
are attempting to exclude from discovery is, in fact, not reasonably accessible.\footnote{Id.}
There have, however, been several debates regarding the extent of the obligations of the parties when it comes to electronic discovery, most notably pertaining to the format of the file produced. Essentially, parties who request that electronic evidence be communicated to them often argue that they should receive the files in their native format so that its metadata may be easily accessible, while parties who are producing the data argue that the file should be produced as a digital image so as to insure the integrity of the document. This debate has not, as of yet, been entirely settled and we are certain to see much future discussion on this matter.

1.2.3.2 Canada

On the Canadian front, the most comprehensive guidelines regarding e-discovery are the Sedona Canada Principles, a second edition of which was released in February 2015. The Sedona Canada Principles is a set of 12 guiding principles for electronic discovery that cover elements ranging from the proportionality of electronic discovery methods, to the obligation of preserving electronic documents, the discovery of electronic data that is reasonably accessible and to the imposition of sanctions where a party may be materially prejudice by the other party's failure to meet its e-discovery obligations.

Several provinces have adopted certain of the Sedona Canada Principles into their Rules of Civil Procedure. For example, in accordance with suggestions made in the Osborne Report regarding the Civil Justice Reform Project the Sedona Principles were integrated into Ontario procedural law with specific emphasis on the principle of proportionality and the agreement on a discovery plan by the parties, which take into account the Sedona principles. Additionally, new rules of practice were adopted in British Columbia in 2010 which have implemented several of the Sedona Canada Principles. Furthermore, while not adopting the Sedona principles per se, The Court of Queen's Bench of Alberta emitted a Practice Note that provides guidance with respect to
electronic discovery that addresses the importance of the preservation, the process for collection and the review of electronic documents.\(^{80}\)

It must also be noted that, similarly to the case in the United States, a debate has arisen in Canada regarding the format in which electronic documents ought to be provided to the other party.\(^{81}\) This issue has been addressed in the commentary regarding Principle 8 of the Sedona Canada Principles which essentially states that "[w]hen at all possible, the production of electronically stored information (ESI) should be made in searchable electronic format [such as Word, Excel or Outlook, TIFF or PDF files], unless the recipient is somehow disadvantaged and cannot effectively make use of a computer."\(^{82}\)

Another debate that has arisen in Canadian case law with regards to the obligation of electronic discovery is whether or not a party producing electronic information is required to provide the requesting party with the software or hardware required to consult that data should they not be in possession of it.\(^{83}\) It has not been unheard of for Court to require that the responding party provide the requesting party with access to this material, but they have refused to go as far as requiring the responding party to provide the requesting party with a license to software especially where said license may be otherwise obtainable.\(^{84}\)

1.2.4 Online Access to Laws and Judgments

For several years now, both the laws and court decisions of several countries, such as Australia,\(^{85}\) Canada,\(^{86}\) the United Kingdom,\(^{87}\) Ireland\(^ {88}\) and many others\(^{89}\) have been freely available online for public access. These databases have been created in response to the Free Access to Law Movement and in accordance with the Declaration on Free Access to Law\(^ {90}\) which holds that:

- "Public legal information from all countries and international institutions is part of the common heritage of humanity. Maximising access to this information promotes justice and the rule of law;
- Public legal information is digital common property and should be accessible to all on a non-profit basis and free of charge;

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81 G. FOGGO, S. GROSSO, B. HARRISON and J. V. RODRIGUEZ-BARRERA, prev. cited, note 69, p. 3.
84 Id.
85 AUSTRALASIAN LEGAL INFORMATION INSTITUTE, online: <http://www.austlii.edu.au/>.
86 CANADIAN LEGAL INFORMATION INSTITUTE, online: <https://www.canlii.org/en/>.
87 BRITISH AND IRISH LEGAL INFORMATION INSTITUTE, online: <http://www.bailii.org/>.
88 BRITISH AND IRISH LEGAL INFORMATION INSTITUTE, online: <http://www.bailii.org/>.
89 CANADIAN LEGAL INFORMATION INSTITUTE, "Other Countries", online: <https://www.canlii.org/en/international.html> (consulted on March 11, 2015).
90 Declaration on Free Access to Law, online: <http://www.fatlm.org/declaration/> (consulted on March 11, 2015).
• Organisations such as legal information institutes have the right to publish public legal information and the government bodies that create or control that information should provide access to it so that it can be published by other parties.

Legal information institutes around the world thus agree to further these purposes by creating websites that render public legal information easily and freely accessible to individuals.

1.3 Online Dispute Resolution

Simply put, online dispute resolution (ODR) consists of "any form of alternative dispute resolution (ADR) that incorporate[s] the use of the Internet or technological tools" and is essentially characterized by the same three features set out in the definition of Cyberjustice above. While there is no defined framework for ODR, there has been the emergence of recommended best practices to this effect. In this vein, the foregoing will outline both (1) the scope of online dispute resolution, as well as (2) its various forms and the providers that offer such services.

1.3.1 The Scope of Online Dispute Resolution

With the development and growth of electronic commerce, the disputes that have been arising between individuals located in different parts of the world, and thus different jurisdictions, are rising exponentially. Online dispute resolution thus provides them with the best solution towards resolving these disputes efficiently and without having to displace themselves. ODR is thus often used in consumer-to-business disputes as well as business-to-business disputes and consumer-to-consumer disputes.

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91 Id.
92 P. GILLIERON, prev. cited, note 8, 302.
94 P. GILLIERON, prev. cited, note 8, 301.
There are several other types of disputes that commonly resort to ODR for resolution. To begin with, domain name disputes, which often arise from the practice of cybersquatting, are the perfect illustration of disputes that arise as a result of the use of Internet technology and for which Internet technology is used to resolve them. An example of an online dispute resolution mechanism for these types of disputes is ICANN's Uniform Dispute Resolution Policy\textsuperscript{96}, which will be discussed in further detail below. It has also been suggested that ODR be used in the context of workplace conflicts, especially considering the growth of Electronic Human Resources Management, or e-HRM\textsuperscript{97}.

Additionally, with the growing popularity of online Massively Multiplayer Online Role-Playing Games that lead to the creation of what is commonly referred to as Virtual Worlds, where individuals interact and transact with one another similarly to how they would in the physical world, we are seeing the growing occurrence of disputes arising in these forums. In addition to using ODR to resolve disputes in these arenas, there has been discussion regarding the use of such worlds to execute ODR\textsuperscript{98}.

1.3.2 Forms of ODR and Associated Service Providers

There are several service providers that provide ODR services and which can be differentiated based on their provision of (1) cyber-negotiation, (2) cyber-mediation or (3) cyber-arbitration services, or a combination of the three.

1.3.2.1 Cyber-Negotiation

Cyber-negotiation can be either assisted or automated. Assisted negotiation essentially entails the use of technological tools meant to enable communication, the development of agendas, engagement in discussions, the identification of possible solutions and the creation of agreements\textsuperscript{99}. Although sophisticated software is often offered by ODR providers for this purpose, the use of e-mail for negotiation is an example of assisted negotiation\textsuperscript{100}. This form of negotiation is often met with 60-80% success rate\textsuperscript{101}.

\textsuperscript{99} P. GILLIERON, prev. cited, note 8, 304.
\textsuperscript{100} Id.
Automated negotiation platforms, on the other hand, are often referred to as "blind-bidding" or "software-as-mediator" and are characterized by their mediation of disputes using only online communication, essentially relying on software to act as the negotiator by providing solutions based on offers made by both parties in an attempt to meet halfway between the desires of both parties\textsuperscript{102}. The manner in which this method is formulated, however, is particular to solving financial disputes\textsuperscript{103}. There are several providers that offer cyber-negotiation services, most notable (1) Cybersettle, (2) ClickNsettle, (3) SmartSettle, and (4) PARLe.

1.3.2.1.1 Cybersettle

Cybersettle uses a "blind-bidding" platform. The service they provide renders it possible for lawyers to provide three separate offers of settlement which the opposing party receives in the form of an e-mail to which he or she can respond with three separate counter-offers. The offers are then compared by the program used by Cybersettle, and if they are within 20\% of each other the case will be settled for an overall average of the offers in question. In the event, however, that this is not what ultimately ends up happening, the parties will then resort to using Cybersettle's telephone facilitation process to come to a final settlement agreement\textsuperscript{104}. Although there are several other automated negotiation providers, Cybersettle is the most commonly used, with approximately 3,000 disputes being resolved per month through the use of their services\textsuperscript{105}.

1.3.2.1.2 ClickNsettle

ClickNsettle is owned by the National Arbitration and Mediation\textsuperscript{106}, which provides arbitration and mediation services as well as case management software and is another example of blind-bidding, where neither party knows what the other one offered or demanded but where the case will be settled for the average between the two if they are ever within 30\% of each other, or for the amount demanded if it is ever below what is offered. The ClickNsettle website is fully interactive and requires an individual to register, provide information about the claim and their demand, if they are the plaintiff, or offer, if they are the defendant, at which point a negotiation is initiated between the parties. The negotiation must follow the specific framework set out by ClickNsettle whereby each new offer must be an increase of at least 5\% from the previous one, and each new demand must be a decrease of at least 5\% from the last one\textsuperscript{107}.

\textsuperscript{102}Sarah Rudolph COLE and Kristen M. BLANKLEY, "Online Mediation: Where We Have Been, Where We Are Now, and Where We Should Be", (2006-07) 38 U. Tol. L. Rev. 193, 200-201; P. GILLIERON, prev. cited, note 8, 305.
\textsuperscript{103}P. GILLIERON, Id.
\textsuperscript{104}S. R. COLE and K. M. BLANKLEY, prev. cited, note 102, 200-201.
\textsuperscript{105}P. GILLIERON, prev. cited, note 8, 306.
\textsuperscript{106}NATIONAL ARBITRATION AND MEDIATION, online: <http://www.namadr.com/>.
\textsuperscript{107}Anita RAMASASTRY, "Online Alternative Dispute Resolution: An Issue Primer", online: <http://cyber.law.harvard.edu/ilaw/Jurisdiction/Ramasasty_ADR_Institutions.html> (consulted February 6, 2015).
1.3.2.1.3 SmartSettle

Smartsettle offers a more personalized service in that it is a facilitator, rather than an automated procedure, that sets up the case online and aids the party in setting out their goals prior to making their respective demands. While this process may take place online, face-to-face meetings are also a possibility. For each issue with which the parties are face, they provide a range of solutions that they would be amenable to, following which the facilitator will consult with each party to determine their precise preferences. Once this is done, the Smartsettle program will generate various suggestions based on the preferences emitted by each party with the ultimate goal of both parties agreeing to the same solution. Due to the fact that Smartsettle is a generic tool, its use is not limited solely to the resolution of disputes but can also be used to reach a final agreement where conflicting objectives are at play, including issues such as family, insurance, workplace, community, real estate, e-commerce, internal affairs, strategic planning, supply agreements, labour-management, contract negotiations, organizational vision, government and international, business mergers and acquisitions and resource planning and development.

1.3.2.1.4 PARLe

Created by the University of Montreal's Cyberjustice Laboratory, PARLe is an anagram for Platform to Assist in the Resolution of Litigation electronically. This platform is one whereby low-intensity disputes, generally consumer disputes, which occur both online and in the physical world may be resolved through the use of a three step process involving negotiation, mediation and finally the transfer of the case. In order to use this platform to solve a dispute, an individual would have to create a user account, describe the conflict and offer a solution. What is particular to this program, however, is that it provides various options of conflicts that may arise in light of Quebec's Consumer Protection Act and the claimant need only check off those that are applicable to his or her case rather than writing out an entire description. The defendant would receive word of the individual's demand via e-mail at which point he could respond with a counter-proposal. It is important to note that any e-mails sent by PARLe to either of the parties consists only of notifications and require them to log into the service for further information, thus ensuring an ultimate level of security. Once the process is complete, if the parties are unable to successfully negotiate, either of them may demand that a mediator be appointed to help them resolve the dispute.

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1.3.2.2 Cyber-Mediation

Cyber-mediation will often only be resorted to in the event that cyber-negotiation is unsuccessful and entails the intervention of a third party, referred to as the neutral, to help the parties reach an agreement by connecting with both of them through the use of technological tools\textsuperscript{111}. It must be noted, however, that frustration is often voiced by neutrals in the case of cyber-mediation due to their remoteness from the parties, as this often makes their job more difficult\textsuperscript{112}. One provider offering cyber-mediation services is SquareTrade.

1.3.2.2.1 SquareTrade

Although no longer offering services to this effect, SquareTrade had initially partnered with eBay regarding disputes arising between buyers and sellers\textsuperscript{113} and had expanded to offering ODR services in over 100 countries worldwide\textsuperscript{114}. This company offered conciliation, mediation, arbitration and recommended resolution services which were offered as either a facilitated service or as an automated one. Their service was offered in two stages, which began with an online negotiation program and ended with professionally facilitated resolution if the negotiation was unsuccessful\textsuperscript{115}.

1.3.2.3 Cyber-Arbitration

Arbitration differs from other forms of ADR in that it is adjudicatory by nature and it is governed by formal rules similarly to those inherent in judiciary proceedings. The parties never contact one another and submit all documents, which must respect particular rules of form, relevant to the dispute directly to the arbitrator\textsuperscript{116}.

Although there may be more than twenty-five websites that offer cyber-arbitration services\textsuperscript{117}, they cannot be considered arbitration in the strictest sense of the term. Essentially, either what is offered is only assisted arbitration where only the claim is filed online but the remainder of the process has no cyber component or the parties were not bound to proceed to arbitration by a prior agreement but rather only decided to do so after the dispute arose. As such, the use of arbitration to resolve disputes only is not terribly common at the present, only 1% of online disputes having been resolved in this manner\textsuperscript{118}. Despite this, however, both the Virtual Magistrate project and

\textsuperscript{111} P. GILLIERON, prev. cited, note 8, 306 and 340.
\textsuperscript{112} Id., 340.
\textsuperscript{113} S. R. COLE and K. M. BLANKLEY, prev. cited, note 102, 200.
\textsuperscript{115} Id., p. 7.
\textsuperscript{116} P. GILLIERON, prev. cited, note 8, 340.
\textsuperscript{117} G. KAUFMANN-KOHLER and T. SCHULTZ, prev. cited, note 101, p. 34.
the UDRP, discussed in further detail below, could be considered as a form of cyber-arbitration:\footnote{P. GILLIERON, prev. cited, note 8, 309.}

\subsection*{1.4 Cyber courtrooms}

Cyber courtrooms, also referred to as High Tech Courtrooms, are essentially courtrooms that have implemented various technologies, such as evidence cameras, annotation equipment, monitors built into the jury box, digital audio reporting, video-conferencing, etc. (some of which will be discussed in the next section), for the purposes of the administration of justice:\footnote{Ros MACDONALD and Anne WALLACE, "Review of the Extent of Courtroom Technology in Australia", 2004, online: <http://scholarship.law.wm.edu/cgi/viewcontent.cgi?article=1252&context=wmborj> (consulted on February 5, 2015); THE FEDERAL JUDICIAL CENTER, "Effective Use of Courtroom Technology: A Judge's Guide to Pretrial and Trial", online: <https://public.resource.org/scribd/8763731.pdf> (consulted on February 5, 2015); CYBERJUSTICE LABORATORY, prev. cited, note 110; Samuel H. SOLOMON and Martin GRUEN, "The High Tech Courtroom", online: <http://www.ninja9.org/courtadmin/mis/High%20Tech%20Presentation.pdf> (consulted on February 5, 2015); Frederic I. LEDEMER, "Courtroom Technology: A Status Report", (2004), online: <http://www.legaltechcenter.net/download/articles/Courtroom%20Technology,%20A%20Status%20Report.pdf> (consulted February 5, 2015).}

The use of technology within a courtroom can be both productive and helpful. Essentially:

"For judges, technology can increase opportunities to control the proceedings, set time limits, and decide matters expeditiously. For jurors, it can increase the sense of participation and improve the understanding of the facts. For lawyers, the faster pace, coupled with the need to respond to visual cues for objections as well as the traditional oral cues, puts a premium on a concise case theory and thorough preparation; there is less and less time for “making it up” as one goes along."\footnote{THE FEDERAL JUDICIAL CENTER, \textit{Id.}, p.1.}

\section*{2. Cyberjustice Technologies}

There are numerous technologies that can be used for the purposes of the administration of justice, but we will limit the present discussion to a brief description of document management systems, tele-immersion technologies, communications technologies, automated court reporting, digital audio and video recording systems, hearing room interface applications and evidence presentation technology.

\subsection*{2.1 Case Management Systems}

Case management systems use electronic means, involving the use of software that automates legal procedure, to manage a case from when it is filed until the time a final decision or settlement is made:\footnote{F. SÉNÉCAL and K. BENYEKHLEF, prev. cited, note 2, 43.}
The benefits of the use of such a system are numerous for both judges and lawyers alike. Judges essentially have electronic access to all files involved in a proceeding that they may consult on the monitor at their bench rather than flipping through cumbersome books of evidence and case law. Additionally, rather than printing out physical copies of all these documents, lawyers can just provide them in the format of PDF documents that the judge will ultimately have access to. Another interesting aspect of such a system is that the references contained within the documents in question can have hyperlinks that lead directly to the material being referenced.

2.2 Tele-immersion Technologies

Tele-immersion technologies for the purposes of Cyberjustice essentially consist of audiovisual means, where videoconferencing is utilized so as to transmit both audio and video signals from a remote location to a screen within the courtroom thus allowing individuals that are not on the premises to partake in the courtroom procedure. The use of this type of technology involves the simultaneous use of cameras, monitors, microphones, speakers, data lines, codecs and enhanced audio.

In addition to individuals in remote locations appearing on monitors within the courtroom, whatever is displayed on-site (including participants, evidence or any other material displayed, etc.) is also seamlessly transmitted to the person who is not physically present. The reason this is important in the context of cyberjustice is "because we are attempting to "replicate" the courtroom to an outside party [and as such] all of the visceral and visual aspects of the courtroom experience must be conveyed as simply and effectively as possible.

2.3 Communications Technologies

In addition to video-conferencing discussed above, various information and communications technologies are utilized within the cyber-courtroom setting. To begin with, sophisticated audio systems are utilized in this context, an important component of which is microphones. The choice of microphone, namely cardioid or omni-directional, will depend on whether the sound being amplified is that of a single speaking person (such as on the witness stand) or several people at once (such as during a bench conference) respectively. In addition to the type of microphone used, the placement of the microphones is also crucial to ensure that audio is transmitted in its clearest form. That having been said, there will be times where sound

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123 THE FEDERAL JUDICIAL CENTER, prev. cited, note 120, p.133.
124 Id.
125 Id.
126 S. H. SOLOMON and M. GRUEN, prev. cited, note 120, p. 3-4.
127 THE FEDERAL JUDICIAL CENTER, prev. cited, note 120, p.24-29.
128 S. H. SOLOMON and M. GRUEN, prev. cited, note 120, p. 3.
129 S. H. SOLOMON and M. GRUEN, prev. cited, note 120, p. 3.
transmission is not desired, such as when discussions are taking place at the bench, and in such
cases there is often a mute button or a white or pink noise generator incorporated into the
microphone so as to ensure that what is being said is not heard.\footnote{131}

Other important components of a courtroom audio system are (1) audio processors, which
especially process, mix and combine the audio generated from various microphones throughout
the room and ultimately distributes it accordingly; (2) audio amplifiers, which essentially
amplify the sounds generated by the audio system so that it may be heard by all individuals
throughout the room; and (3) echo-cancellation systems, which essentially prevents a speaker
from hearing the echo made by his voice through the speaker system.\footnote{132}

In addition to sophisticated audio systems, another important communications technology
utilized in courtrooms is infrared transmitters which essentially possess two purposes.\footnote{133}
To begin with, they can be used as assistive listening devices, which are primarily meant to aid those
who are hard of hearing to hear what is being said, but may also be useful for others in the
courtroom who are at a distance from the speaker. Secondly, they can be used as foreign
language interpretation devices (which use the same system as that of assistive listening but
rather have an interpreter's voice being transmitted and translating what is being said).\footnote{134}

2.4 Digital Audio and Video Recording System

Digital audio and video recorders essentially record all verbal and non-verbal communication
that takes place in a courtroom in digital format and saved on computers, CD-ROMS and other
forms of digital storage.\footnote{135} The combination of both of these recordings along with evidentiary
exhibits essentially consist of the most elaborate form of court record available in the modern
age, and which will be discussed in further detail in the next section.\footnote{136}

2.5 Automated Court Reporting

The most common technologically advanced form of court reporting, referred to as computer-
assisted transcription or CAT,\footnote{137} utilizes a specialized stenotype machine which contains a
database of words that correspond to particular keystrokes on the machine. Thus, as opposed to
typing in shorthand and having to type the full transcription at a later date, when the

\footnotesize
\textsuperscript{131} THE FEDERAL JUDICIAL CENTER, prev. cited, note 120, p. 16.
\textsuperscript{132} M. GRUEN, prev. cited, note 130, p. 3 and 4.
\textsuperscript{133} THE FEDERAL JUDICIAL CENTER, prev. cited, note 120, p. 16.
\textsuperscript{134} M. GRUEN, prev. cited, note 130, p. 4.
\textsuperscript{135} M. GRUEN, prev. cited, note 130, p. 4.
\textsuperscript{136} Fredric I. LEPIN, “Excerpts from: Basic Advocacy and Litigation In a Technological Age: Traditional and
Innovative Trial Practice In a Changing World”, 2005, p. 61, online:
<http://www.legaltechcenter.net/download/articles/Excerpts%20from%20Basic%20Advocacy%20and%20Litigatio
n%20In%20a%20Technological%20Age.pdf> (consulted on February 5, 2015).
\textsuperscript{137} M. GRUEN, prev. cited, note 130, p. 10.
stenographer enters a specific combination of keystrokes, the word will automatically appear. This type of real-time court reporting requires extensive training in order for the transcript they create to be as accurate as possible.

Another modern way in which to provide the court transcript makes use of voice recognition technology. Essentially, in the same vein as voice reporting where the reporter repeats what is being said in court into a mask containing a microphone and their voice is then recorded, court reporters can do the same but rather than simply recording their voice, they make use of voice-recognition technology that essentially types up what they are saying as they are saying it thus also providing a real-time transcript of what is being said in court.

Another technology that can be used for court reporting is that of digital or electronic court reporting. Essentially, differently from the forms of court reporting described above where stenographers are required to type in shorthand, use keystrokes that equate to words or repeat what is being said in court word for word, digital court reporters are only required to take note of the identity of the speaker as well as various keywords spoken throughout his or her testimony. The notes taken down by the digital court reporter are then ultimately used as a general outline for the recording of the testimony thus allowing any of the keywords in question to be searched and lead an individual to the exact place in the recording where that keyword is used. Even more modern technology to this effect not only allows the digital audio of court recordings to be indexed, but even renders it possible to attach additional information (such as evidence presented) to the digitally recorded files.

There have been certain experiments regarding combining this form of digital audio reporting with speech recognition technology so as to provide an automatic real-time transcription without the intervention of a stenographer or court reporter. Speech recognition technology is not yet, however, sufficiently sophisticated to be able to differentiate between various accents or to keep up with the speed with which individuals often speak when testifying in court. Due to these software limitations, and while it has been employed on occasion, this type of technology is not yet commonly used.

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141 CYBERJUSTICE LABORATORY, prev. cited, note 110.
142 THE FEDERAL JUDICIAL CENTER, THE FEDERAL JUDICIAL CENTER, prev. cited, note 120, p. 32.
2.6 Hearing Room Interface Application

The Hearing Room Interface Application, created by the University of Montreal's Cyberjustice Laboratory, is an Internet connected application that renders it possible for all those involved in a given proceeding, including the judge, lawyers and parties, to control various technologies within the hearing room, such as the camera, microphone, evidence presentation technology and so on\textsuperscript{143}.

2.7 Evidence Presentation Technology

There are several different types of technology used in the courtroom setting for purposes of presenting evidence. To begin with, there are document cameras upon which photos or documents may be placed and will then appear on a television or monitor to which the document camera is connected, thus making it visible to the entire courtroom\textsuperscript{144}. At times, and depending on the technology available, a digital photo or video camera may also be directly connected to a television or monitor so as to present evidence\textsuperscript{145}. This television or monitor is usually part of an evidence presentation system that, in addition to allowing for the projection of certain material, also allows for copies of all evidence presented thereon to be made\textsuperscript{146}. Additionally, some high-tech courtrooms place small flat screens at each jury seat, the judge's bench, the witness stand and before counsel and all images or videos presented as evidence appear on those screens as well\textsuperscript{147}.

High tech whiteboards are also often used to present evidence or arguments and their benefit is that whatever is written on the whiteboard is immediately transferred to the computer to which the whiteboard is connected and may ultimately be saved and included in the court record\textsuperscript{148}. Some such whiteboards even allow for the possibility to project images onto it and then have a witness highlight or circle and important part of the image, for example\textsuperscript{149}.

3. Cyberjustice Initiatives

There have been several initiatives worldwide to implement technologies into the legal system. Although not an exhaustive review of all existing cyberjustice initiatives, this section will outline the advance made by (1) some countries in the European Union, (2) Australia, (3) the United States of America, (4) Canada, (5) Taiwan, and (6) Brazil. Additionally, (7) several initiatives have been made on an international level, which will also be described below.

\textsuperscript{143} CYBERJUSTICE LABORATORY, prev. cited, note 110.
\textsuperscript{144} F. I. LEDERER, prev. cited, note 136, p. 46.
\textsuperscript{145} Id., p. 48.
\textsuperscript{146} S. H. SOLOMON and M. GRUEN, prev. cited, note 120, p. 3.
\textsuperscript{147} F. I. LEDERER, prev. cited, note 136, p. 51.
\textsuperscript{148} Id., p. 49.
\textsuperscript{149} Id.
3.1 The European Union

In addition to (1) several electronic justice services offered by the European Union itself, several countries in Europe have also made advancements to this effect, including (1) the United Kingdom, (2) Italy, and (3) Spain.

3.1.1 The e-Justice Portal, e-CODEX, e-CURIA and the EU’s ODR Initiative

In addition to members of the European Union, such as the United Kingdom, Italy and Spain which will be discussed below, having made advancements in the domain of cyberjustice the European Union itself has also put forth several initiatives in this respect. To begin with, there is the e-Justice Portal through which legal information such as legislation and case law can be accessed. Additionally, legal information for both citizens and legal professionals can be found on this site, such as what criteria a person must fulfill in order to be eligible for legal aid or which tools (i.e. videoconferencing) might be available to a lawyer who is litigating a cross-border dispute\(^1\).

Other cyberjustice initiatives headed by the European Union are e-CODEX and e-CURIA. To begin with, e-CODEX "aims at developing an electronic system constituted by "building blocks" that can be used in, or between, Member States to support cross-border judicial operations"\(^2\). There are five of the building blocks in question, each aimed at accomplishing a different task, namely electronic delivery of information between member states, electronic signature, electronic payment, electronic identification for authentication purposes and electronic documents, which converts documents and deals with other semantics. E-CODEX is essentially a pilot project whose aim is to use e-Justice to contribute to the European Union's legal framework, to promote collaboration between Member States so as to encourage the co-existence of different legal system while at the same time increasing the coherence of the European legal system as a whole, to increase the efficiency of cross-border proceedings and to modernize the legal systems throughout Europe\(^3\).

E-CURIA, on the other hand, is essentially the e-filing system

"of the Court of Justice of the European Union that is intended for lawyers and agents of the Member States and of the institutions, bodies, offices and agencies of the European Union, and which allows the exchange of procedural documents

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\(^3\) ECODEX, "About the Project", online: <http://www.e-codex.eu/about-the-project.html> (consulted on March 20, 2015).
with the Registries of the Court of Justice, the General Court and the Civil Service Tribunal, by exclusively electronic means.¹⁵³

All that is required to make use of this service is an e-mail address and an Internet connection; all access takes place through e-CURIA's secure website which can be used free of charge, however only lawyers authorized to practice in a Member State will have full access to all of e-CURIA's services. The only other individuals permitted to utilize this service are Assistant Lawyers whose use of the system is limited to the preparation and access of documents but does not extend to filing Court proceedings¹⁵⁴. In addition to rendering it possible to file all court documents via this website, this system also possess security measures so as to ensure the integrity of the documents filed thereon¹⁵⁵.

Finally, of significant note is the European Union's ODR initiative, expected to be launched in 2016, through the adoption of the Regulation on Consumer Online Dispute Resolution¹⁵⁶ and the Directive on Consumer Alternative Dispute Resolution in 2013. The latter essentially renders it possible for consumers to request that disputes arising through the purchase of goods and/or services online be transferred to private dispute resolution service providers. This will be achieved by referring the case to an ODR platform headed by the European Union which will then be charged of referring the case to a particular dispute resolution service provider¹⁵⁷.

3.1.2 The United Kingdom

One of the cyberjustice initiatives of the United Kingdom is its Money Claim Online (MCOL) is an online e-filing service that allows an individual to institute a claim against a maximum of two people or organisations who owe them money up to a maximum of £100,000 but refuses to pay it¹⁵⁸. It is important to note, however, that this service may only be utilized against an individual who possess an address in England or Wales, whereas the claimant himself may be domiciled anywhere in the United Kingdom¹⁵⁹. However, in order to access this service, an individual is required to have a Government Gateway ID, which is provided upon registration for the MCOL service¹⁶⁰. It is significant to note, however, that at any point throughout a proceeding instituted via MCOL, either party may opt to switch the claim to a paper based one. This option is

¹⁵³ ECURIA, online: <http://curia.europa.eu/jcms/jcms/P_78957/> (consulted on February 5, 2015)
¹⁵⁴ M. FABRI, prev. cited, note 151, p. 54.
¹⁵⁵ Id., p. 55.
¹⁵⁸ GOV.UK, "Make a money claim online", online: <https://www.gov.uk/make-money-claim-online> (consulted on March 8, 2015).
¹⁵⁹ Id.
¹⁶⁰ Id.
provided so as to ensure that those individuals who are not particularly technologically savvy are not disadvantaged throughout this process\textsuperscript{161}.

Additionally, the case management system, known as Compass, is another cyberjustice initiative undertaken by the United Kingdom for use by the Crown prosecution in England and Wales and essentially "carries out all the information and documents that deals with the case-file registration, the case-file allocations, the hearing outcomes, the case-file finalization [as well as] standard pre-formatted documents and national templates"\textsuperscript{162}.

More recently, the Ministry of Justice has made a proposal to modernize the justice system by settling thousands of legal disputes involving a maximum of £25,000 via online technology based on the dispute resolution system developed by eBay. Additionally, the Ministry of Justice has also committed to digitizing criminal courtrooms by 2016\textsuperscript{163}.

3.1.3 Italy

Although Italy's incorporation of information and communication technologies into its justice system has been significant\textsuperscript{164}, the focal point of Italy's cyberjustice initiative is its Trial Online\textsuperscript{165}. The first version of this system was released in 2005 and is an "information system for electronic transmission of data, for accessing procedural documents and notifications, and for the payment of fees in civil cases"\textsuperscript{166}. This system allowed for procedures to be e-filed, case data to be exchanged, case files to be managed as well as communication with the court and payment of court fees\textsuperscript{167}. This initial system, however, failed for several reasons, most notably due to the fact that the software had to be purchased by both bar associations and lawyers, the cost of which was significant and prevented any desire from purchasing and using it\textsuperscript{168}.

A new version of TOL was headed by the Court of Milan and the Milan Bar Association in 2006 in collaboration with court staff, lawyers, court ICT specialists and specialists from the Ministry of Justice's office\textsuperscript{169}. This new system digitizes the payment of court fees, allows for the e-filing

\textsuperscript{161} M. FABRI, prev. cited, note 151, p. 21.
\textsuperscript{162} Id., p. 35.
\textsuperscript{163} Nigel MORRIS, "Online courts modelled on eBay to settle legal disputes", February 16, 2015, online: <http://www.independent.co.uk/news/uk/home-news/online-courts-modelled-on-ebay-to-settle-legal-disputes-10047780.html> (consulted on March 20, 2015).
\textsuperscript{165} See: M. FABRI, prev. cited, note 151.
\textsuperscript{166} G. LUPO and J. BAILEY, prev. cited, note 3, 358.
\textsuperscript{167} Id.
\textsuperscript{168} Id., 358-359.
\textsuperscript{169} Id., 359.
of procedures via a certified e-mail\textsuperscript{170} as well as for the drafting of court procedures by lawyers within the program and to which copies of physical files may be attached. Additionally, this system allows for digital signatures as well as for judges to study, write and sign their final decisions within the program as well\textsuperscript{171}. The success of this program is evidenced by the fact that 60\% of all payment orders were filed electronically by 2010. Due to the success of TOL in Milan's court system, it has now been adopted in 32 courts throughout Italy\textsuperscript{172} and Legislative Decree 179/2012 was adopted which rendered the use of TOL mandatory starting in 2014 for any judicial documents being submitted to an Italian court with respect to a civil case thus essentially forcing whichever courts have not already done so to adopt TOL\textsuperscript{173}.

In addition to TOL, however, it is not insignificant to note the use of multi-video conferencing by the Italian judiciary in high profile criminal cases where it is considered to be too dangerous to transport the defendant to the courthouse. The use of this form of technology for the appearance of defendants in criminal court is rather significant, having been used in 5804 in 2009, and has also proved to save the costs associated with the transportation of prisoners to and from the courthouse\textsuperscript{174}.

### 3.1.4 Spain

The introduction of information and communications technologies into the Spanish legal system began in 1994 with an amendment to the Organic Law of Judicial Power which rendered it possible for (1) courts to use electronic media in the exercise of their roles, (2) electronic documents to be considered valid so long as their authenticity and security can be ensured, and (3) citizens to contact the judiciary via electronic media\textsuperscript{175}. Any and all computer programs used to this effect must, however, comply with personal data protection laws and must be pre-approved by the General Council of the Judiciary to ensure that all programs used within the Spanish judiciary are inter-compatible\textsuperscript{176}.

As a result of this particular amendment, the General Council of the Judiciary passed an act meant to regulate technology used in regards to accessory aspects of the legal system such as to "regulate the creation and management of automated files containing personal data under the responsibility of judicial authorities and also the procedure to approve the administration of justice's computer programs, applications and systems"\textsuperscript{177}. This law also set out the procedure.

\textsuperscript{170} Id., 360.
\textsuperscript{171} Id., 359.
\textsuperscript{172} Id.
\textsuperscript{173} Id., 361.
\textsuperscript{174} M. FABRI, prev. cited, note 151, p. 45-46.
\textsuperscript{176} Id.
\textsuperscript{177} Id., 101-102.
and conditions based on which certain computer programs will be approved by the General Council of the Judiciary.

These amendments did not, however, have the desired result of increasing the use of technology in the Spanish judiciary system and this led to the creation of the White Paper on Justice which was approved in 1997 and essentially promoted the increased use of technology in the legal system. In response to this, several steps were taken to integrate technology into the Spanish judiciary including (1) the passing of a law allowing for the use of technology in court proceedings, (2) the signature of the State Agreement for Reforming Justice whereby the court system was redesigned to include electronic media and which set forth a proposal for the creation of a Strategic Plan on New Technologies with the ultimate goal of making the use of electronic media in judiciary mandatory rather than optional, (3) and the modification of the Charter of Citizens before the Justice, the Criminal Law Proceedings and the Organic Law to ensure the introduction of electronic media in the judiciary.\(^\text{178}\)

In response to all of these legal reforms, the Spanish justice system has incorporated information and communications technologies into several of its functions, notably for the purposes of the treatment of information and the management of judicial files.\(^\text{179}\) When it comes to the treatment of information, the role of technology is twofold in that, not only is technology use to manage, store and access legal information created or received by the courts (such as jurisprudence or documents from legal proceedings), but it is also used to communicate judicial information between all actors of the legal system (part of which is now done through a network called the Punto Neutro Judicial which provides legal agencies with access to the databases of several public authorities) and ultimately transmit it to all citizens by hosting legal data on websites (such as information on the stages of lawsuits).\(^\text{180}\)

With regards to the management of judicial files, several computer programs are used for various purposes such as to manage the administration of the courts (i.e. financially), as well as for document management (i.e. electronic storage as opposed to physical storage) and case management (through which a case can be electronically managed from start to finish and several such programs exist in Spain including Minerva and Libra created by the Ministry of Justice and Adriano, Atlante, Themis and Cicerone created by Spain's Autonomous Communities). Of particular note is a program that enables data to be securely transferred and which goes by the name of LexNET.\(^\text{181}\)

3.2 Australia

Similarly to other countries who have taken cyberjustice initiatives, Australian courts offer numerous legal services online ranging from the electronic filing of cases, to online courtrooms.

\(^{178}\) Id., 102-103.  
\(^{179}\) Id., 98.  
\(^{180}\) Id., 105-107.  
\(^{181}\) Id., 107-109.
in which cases may be heard, case management services and online case law databases and registries\textsuperscript{182}.

In addition to all of the significant judiciary innovations that have taken place within the Australian court system, what is of most significant note is the use of an electronic courtroom for the hearing of the high-profile murder trial of Falconio – the first recorded use of a fully electronic courtroom for an actual trial\textsuperscript{183}. This high-tech courtroom was created specifically for this case and utilized information and communication technologies throughout all stages of the process, including:

"a. Conversion of evidence from the prosecution authority’s internal information system into an electronic court book of key documents to be used at hearing (the e-court book)

b. Management of the protocols of engagement for all parties to exchange data with the court

c. A systemwide IT management plan, dealing with design and implementation, security, connectivity, disaster recovery, and support services

d. An electronic court book allowing users interactive access to key documents

e. Evidence presentation tools, including ‘smart board’ technology, capturing live whiteboard-style annotations on displayed documents"


\textsuperscript{183} Sandra POTTER, Phil FARRELLY and Derek BEGG, "The E-Court Roadmap: Innovation and Integration An Australian Case Study", in Agusti Cerrillo i MARTINEZ and Pere Fabra i ABAT, E-Justice: Information and Communication Technologies in the Court System, New York: Information Science Reference, 2009, 165 at page 176.
f. Real-time transcript, evidence, and exhibit management including delivery to the electronic court book

g. Implementation of audio-visual technology, including a further ante-room used as a media centre for the international press."\(^{184}\)

Also of particular note is the use of video conferencing for the provision of forensic evidence in court. Due to the amount of time that forensic officers spent traveling to and from court for the purposes of presenting forensic evidence, this practice became much more common. It essentially consists of an in-house videoconferencing facility housed by the Victoria Police Forensic Department through which evidence is given in committal proceedings, barring exceptional circumstances\(^{185}\).

3.3 The United States of America

There are several notable American cyberjustice initiatives, including (1) the McGlothlin Courtroom, (2) Courtroom 23, (3) Michigan’s Cyber Court, (4) the National Center for Information Technology and Dispute Resolution, and (5) the Virtual Magistrate, all of which will be discussed in more detail below.

3.3.1 William and Mary College of Law's Center for Legal and Court Technology's McGlothlin Courtroom

Formerly referred to as the Courtroom 21 Project, the McGlothlin Courtroom is a high-tech courtroom situated at the William and Mary College of Law whose development began in 1992 in association with the National Center for State Courts and has experienced great success\(^{186}\). The courtroom in question is equipped with some of the most recent legal technology including videoconferencing, digital audio and video, evidence presentation technology and court reporting technology that is capable of publishing a real-time transcription online\(^{187}\).

Starting in 2001, the McGlothlin Courtroom was used in some major simulated criminal court cases\(^{188}\) and these experiences have demonstrated that while some courtroom technologies are tremendously useful, others may not necessarily have the desired effects. For example, during one such mock trial in 2002 holographic evidence and immersive technology was used for the first time recorded and it benefited the defense's case significantly. In effect, by recreating the scene at issue, it was possible to entirely discredit one of the main witnesses who claimed to have

\(^{184}\) Id., at p. 177.

\(^{185}\) M. FABRI, prev. cited, note 151, p. 48-50.


\(^{188}\) F. I. LEDERER, prev. cited, note 120, p. 4.
seen what would have been the pivotal deciding point of the trial by essentially demonstrating that there was no possible way for her to have seen it as it was not in her line of vision at any point in time\textsuperscript{189}. On the other hand, when certain presentation software was used by lawyers throughout these mock trials, their arguments suffered due to the fact that, when they did not leave images of evidence on the screen for long enough prior to moving on to the next slide, the jury tended to consider that they were trying to obscure the evidence and this thus negatively affected their case\textsuperscript{190}.

3.3.2 **Orange County's Courtroom 23**

The development of the Ninth Judicial Circuit's Courtroom 23 began in 1997 following a tour they had taken of the now McGlothlin Courtroom previously discussed. Two years later, Courtroom 23 was officially opened the doors of their high-tech courtroom which integrates some of the latest courtroom technology including an evidence presentation system, Internet and remote broadcast, real-time court reporting, desktop technology, plasma display monitors for the jurors, attorneys, witnesses, clerks, court reporters, judge and in the public gallery for viewing, video annotation, videoconferencing, digital court reporting, computer legal research, advanced audio, touch screen integration and a wireless network\textsuperscript{191}.

Of particular note is the evidence presentation system utilized in Courtroom 23, named NOMAD, which is fairly advanced and, in addition to being rather compact, consists of a flat screen display, a projector, a document camera, a white board, a VCR and DVD Player, a laptop connection, a computer and a sound system. This system can display digital documents including 3-D objects, play video and audio footage, and incorporates a touch screen monitor which can be used to display and mark elements to be pointed out, among other things\textsuperscript{192}.

3.3.3 **Michigan's Cyber Court**

While Michigan's Cyber Court never came to fruition due to limited funds\textsuperscript{193}, legislation was passed for the creation of a virtual public courthouse back in 2001 and the goals it intended on achieving were rather avant-garde for its time. Among the proposed objectives was to relax the rules related to e-filing with the goal of expanding its use, the use of audio, video or Internet conferencing for court proceedings which the Judge would have had the discretion of

\textsuperscript{189} *Id.*, p. 6.
\textsuperscript{190} *Id.*, p. 7.
\textsuperscript{192} NINTH JUDICIAL CIRCUIT COURT OF FLORIDA, "Courtroom 23+", *Id.*; NINTH JUDICIAL CIRCUIT COURT OF FLORIDA, "Court Technology", *Id.*.
broadcasting online, to provide judges with specific cyber-court technology training and, more controversially, the waiver of jury trials which was meant to speed up the process\(^ {194}\). The ultimate goal consisted of "an ambitious agenda [that promoted] a fully virtual court that integrates a wide range of new technologies that collect, distribute, broadcast, process and store case information"\(^ {195}\).

That having been said, in 2012 the National Center for State Courts recommended the implementation of an e-filing system throughout all Michigan courts\(^ {196}\) and steps have been taken towards the adoption of such a system\(^ {197}\). Additionally, legislation creating a business court became effective on January 1, 2013 and one of the goals of this legislation was to "allow business or commercial disputes to be resolved with the expertise, technology, and efficiency required by the information age economy"\(^ {198}\). Thus while the initial grand plan of the creation of a cyber court never came to be, steps have been taken since then to increase the use of technology in judicial proceedings\(^ {199}\).

3.3.4 University of Massachusetts' National Center for Information Technology and Dispute Resolution

Created by Professors Ethan Katsh and Janet Rifkin in 1998, the National Center for Information Technology and Dispute Resolution (NCTDR) assumed the task of determining whether online mediation could work towards resolving disputes that arise in cyberspace. Initially undertaking the project for the benefit of eBay, Professors Katsh and Rifkin created what was known as the Online Ombuds Office (OOO), which was, at the time, one of the first of its kind\(^ {200}\). The project was tremendously successful, with over 150 disputes having been resolved within two weeks\(^ {201}\), and was ultimately taken over by SquareTrade, discussed above, and which continues to thrive to this day\(^ {202}\).

Following this success, the NCTDR continues to press forth in the domain of Online Dispute Resolution, in accordance with its mission whereby it aims to

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\(^ {198}\) Mich. Comp. L. § 600.8033(3)(b).

\(^ {199}\) See: D. L. TOERING, prev. cited, note 194.

\(^ {200}\) P. GILLIERON, prev. cited, note 8, 306.

\(^ {201}\) THE NATIONAL CENTER FOR TECHNOLOGY AND DISPUTE RESOLUTION, "History", online: <http://odr.info/history/> (consulted on March 8, 2015).

\(^ {202}\) P. GILLIERON, prev. cited, note 8, 307.
"[support and sustain] the development of information technology applications, institutional resources, and theoretical and applied knowledge for better understanding and managing conflict. The Center believes that networked information technology can be uniquely leveraged to expand and improve conflict management resources and expertise. We are only at the beginning of understanding how individuals separated by great physical, cultural, or technological distances can utilize resources and expertise virtually. We conceive of the online environment as a “place” where increasingly powerful tools will be available for working to find solutions to many forms of offline/online conflict, whether they are public or private, whether they involve commercial transactions or other social relationships, and whether they are international or domestic."203

In pursuit of this mission, the NCTDR has headed several projects including Cyberweek (which is a free annual conference on the topic of ODR that takes place entirely online and has been sponsored by the NCTDR since 1998)204, the International ODR Conference which it has hosted since 2002205, and the creation of software whose goal is to support individuals in online social deliberation206, among many others.

3.3.5 Chicago-Kent College of Law's Virtual Magistrate

A 1995 meeting sponsored by the National Center for Automated Information Research (NCAIR and the Cyberspace Law Institute (CLI) is what ultimately led to the creation of the Virtual Magistrate, whose goal was to provide a neutral online adjudication panel that could aid in the resolution of issues arising through the use of online systems for illegal or harmful activity207. The Virtual Magistrate is essentially characterized by three features, namely (1) its commitment towards speedy dispute resolution, (2) its offer to only decide one class of cases, namely those regarding whether or not a harmful online message, file or posting should continue to be available via the Internet, and (3) its unlimited jurisdiction similarly to that of the Internet itself208.

The goal of the Virtual Magistrate was ultimately to arbitrate between users and network operators or Internet Service Providers via an arbitration process that was conducted mainly through the use of e-mail. Disputes were submitted by complainants to the Virtual Magistrate

205 THE NATIONAL CENTER FOR TECHNOLOGY AND DISPUTE RESOLUTION, "International ODR Conference", online: <http://odr.info/international-odr-forum/> (consulted on March 8, 2015)
208 Id.
through the completion of a series of questions regarding the dispute which it would e-mail to the Virtual Magistrate who would commit itself to decide upon the matter within 72 hours for the cost of a 10$ fee to prevent the institution of frivolous actions\textsuperscript{209}. Unfortunately, however, the limited scope of the nature of disputes accepted to be resolved by the Virtual Magistrate resulted in its lack of success, essentially only having handled a single case, that of \textit{Tierney v. Email America} and even this decision was made by default as the defendant did not proceed\textsuperscript{210}. Despite this, the Virtual Magistrate is still in existence and is hosted by the Chicago-Kent College of Law\textsuperscript{211}.

### 3.4 Canada

On the Canadian front, there have been a number of efforts to incorporate technology into the judiciary, not all of which have been successful. This section will be dedicated to illustrating the initiatives made by (1) Ontario, (2) British Columbia, and (3) the University of Montreal.

#### 3.4.1 Ontario

Although attempts have been made by the Ontario judiciary to modernize its court system through the use of technology, not many have been successful. Most recently, their goal was to create a Court Information Management System but the program they sought was so ambitious that they wound up losing $4.5 million dollars when they finally decided to forgo the project\textsuperscript{212}. Prior to this attempt, in 1996 Ontario undertook a project entitled the Integrated Justice Project whose goal was to create computer based systems to replace the paper based one of the time as well as to create a Common Inquiry System for criminal cases that would allow for the creation of links to files in other areas. This project too was halted due to the fact that implementation costs were much higher than foreseen and, as such, the digital audio recording, e-file and civil and criminal case management systems meant to replace the paper based system never came to fruition and neither did the Common Inquiry System\textsuperscript{213}.

More recently, however, the Ontario government has decided to take another step forward in the domain of cyberjustice and has been looking towards implementing an ODR system for several different provincial offences. The creation of such a system is meant to save on the astronomical costs of adjudicating the 1.6 million such charges set forth annually, $5.5 million dollars of which are used to pay police officers for simply appearing in court for these purposes. It is also meant to increase access to justice by rendering it more convenient to fight a ticket. The Ontario government is currently in the market for ideas regarding the manner in which to implement such

\textsuperscript{209} K. BENYEKHLEF and F. GÉLINAS, prev. cited, note 1, 89.  
\textsuperscript{210} P. GILLIERON, prev. cited, note 8, 309.  
\textsuperscript{211} K. BENYEKHLEF and F. GÉLINAS, prev. cited, note 1, 91.  
\textsuperscript{213} G. LUPO and J. BAILEY, prev. cited, note 3, 368.
a system in a manner that would: "[provide] education and legal resources to help users understand and navigate the system[; use] independent hearing officers, rather than judges[; move] as many straightforward infractions out of the courts as possible[; resolve] disputes through an information, fair and accessible hearing process"\textsuperscript{214}.

3.4.2 British Columbia

British Columbia's cyberjustice initiative began with the installation of the Justice Information System known as JUSTIN back in 2001, which is used in provincial and superior courts for the purposes of managing criminal cases and through which data regarding each case may be accessed by legal actors\textsuperscript{215}. In addition to providing real-time access to court schedules, JUSTIN allows for the production of standard documents and reports that respect government grade security measures\textsuperscript{216}.

The next addition to British Columbia's e-court system was the Civil Electronic Information System (CEIS) which was developed in 2003 and provides case management services for civil, family and estate cases arising in superior and provincial courts\textsuperscript{217}. A similar system was developed for the appellate level two years later, dubbed WebCATS\textsuperscript{218}.

Together, JUSTIN and CEIS evolved to offer many more service such as case tracking, a document repository, document and workflow management, among other things, and essentially form the basis for Court Services Online (CSO), discussed in further detail above\textsuperscript{219}.

Other cyberjustice technologies utilized by the British Columbian court system include digital audio recording systems and evidence presentation carts, which ultimately rendered it possible for the first fully electronic proceeding to be held by the British Columbia Supreme Court in 2011, and by the British Columbia Court of Appeal in 2012\textsuperscript{220}. Additionally, with the adoption of Bill 44 - 2012, the Civil Resolution Tribunal Act, British Columbia created the first provincial ODR system meant to aid in the resolution of property and small claims disputes\textsuperscript{221}.

3.4.3 University of Montreal's Cyberjustice Laboratory

The University of Montreal's experiments in ODR began in 1996 with the conception of the CyberTribunal Project by Professor Karim Benyekhlef, which stood as the very first project of

\textsuperscript{214} M. ERDLE, prev. cited, note 157.
\textsuperscript{215} G. LUPO and J. BAILEY, prev. cited, note 3, 371.
\textsuperscript{216} Id.
\textsuperscript{217} Id.
\textsuperscript{218} Id.
\textsuperscript{219} Id., 372.
\textsuperscript{220} Id.
\textsuperscript{221} Simon FODDEN, "B.C. to Have Official Online Dispute Resolution", May 10, 2012, online: <http://www.slaw.ca/2012/05/10/b-c-to-have-official-online-dispute-resolution/> (consulted on April 5, 2015);
its kind at the time\(^{222}\). The work conducted by the CyberTribunal led to the creation of eResolution\(^{223}\), which was a UDRP accredited ODR provider and was successful in resolving over 500 disputes in more than 50 countries. In 2001, the software utilized by eResolution was adapted to create another ODR platform known as ECODIR\(^{224}\), and which will be discussed in further detail below\(^{225}\).

Taking the experiences of all these projects, the Cyberjustice Laboratory was conceived in 2004, also by Professor Benyekhlef, and ultimately created in 2010\(^{226}\). The Laboratory essentially consists of a high-tech virtual hearing room located at the University of Montreal, as well as a portable hearing room located at McGill University, in which trials and simulations can be held and which can be controlled via a remote control or by the court clerk from within the hearing room\(^{227}\). It contains audio-visual technology which allows for multi-videoconferencing as well as the presentation of evidence in various formats, including 3D evidence through the use of a digital retro-projector and the possibility of the live annotation of evidentiary documents being presented. The Cyberjustice Laboratory is also in the process of exploring the implementation of voice-recognition technology for the purpose of recording the hearings in written format for the court record and public records\(^{228}\).

Research regarding the use of technology within the legal system is ongoing at the Cyberjustice Laboratory and is performed by three working groups, each one concentrating on a different facet of the integration of technology into the legal world, including the development of open source code software and applications as well as the manner in which to overcome the social resistance to these technological developments. In order to effectively cover all aspects that might affect the success of technological implementations in the court system, the Cyberjustice Laboratory unites researchers from multiple disciplines such as computer science, law, anthropology and psychology from nearly twenty countries around the world. These individuals collaborate with legal actors in the hopes that whatever solutions their research leads to will be accepted within the legal community\(^{229}\).

Among the projects that these working groups have accomplished up to date are the creation of various programs and applications, such as PARLe, discussed above, and a procedure scheduling program, in which strong attention is paid to digital security. Of particular note is the

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\(^{222}\) See: K. BENYEKHLEF and F. GÉLINAS, prev. cited, note 1, 117-126.

\(^{223}\) See: Id., 92-94.

\(^{224}\) See: Id., 100-109.

\(^{225}\) See: Id., 117.


\(^{227}\) See: Id., 100-109.


Laboratory's exploration of holographic technology to be used for the recreation of crime scenes and remote testimonies, similarly to that used by the McGlothlin Courtroom in 2002 and discussed in further detail above.\textsuperscript{230}

3.5 Taiwan

Although cyberjustice has not developed greatly in Taiwan, it does currently possess two government accredited programs that offer ODR and are considered to be competent to handle consumer disputes as recognized by the Consumer Protection Act,\textsuperscript{231} namely the Secure Online Shopping Association\textsuperscript{232} (SOSA) and the Net Consumers Association. SOSA renders it possible for consumers to file complaints against online merchants via its website with the ultimate goal of resolving disputes that arise between consumers and said merchants in a cyber environment.\textsuperscript{233}

The Net Consumers Association, on the other hand, provides a mediation service which requires online merchants to become members and submit funds to a general compensation fund so that, in the event that the final resolution of the dispute requires the merchant to provide the consumer with a refund, this money will be used for that purpose.\textsuperscript{234}

While these programs are both significant and useful, they are limited in that they require merchants to become members of their service and membership is limited to Taiwanese merchants alone. This thus renders it impossible to use these services to solve disputes with foreign merchants which, considering the cross-border nature of the Internet, is tremendously common.\textsuperscript{235}

3.6 Brazil

Over a decade ago, the Brazilian judiciary began integrating information and communications technologies into their court system. The push for this change resulted from the success of an electronic electoral ballot box which had been first implemented in 1996.\textsuperscript{236} Since then, a federal law\textsuperscript{237} has been passed, whose mission is to “regulate the use of electronic media in judicial proceedings, including communication and transmission of documents.”\textsuperscript{238} To this effect, the proceedings of both the Supreme Court and the Supreme Court of Justice have become

\begin{itemize}
\item \textsuperscript{230}Id.
\item \textsuperscript{231}Taiwanese Consumer Protection Act, art.27, 28, and 43.
\item \textsuperscript{232}See: SOSA, online: <http://www.sosa.org.tw>.
\item \textsuperscript{233}C.-C. KAO, prev. cited, note 95, 120.
\item \textsuperscript{234}Id.
\item \textsuperscript{235}Id.
\item \textsuperscript{236}Roberto Fragale FILHO and Alexandre VERONESE, "Electronic Justice in Brazil", in Agusti Cerrilo i MARTINEZ and Pere Fabra i ABAT, E-Justice: Information and Communication Technologies in the Court System, New York: Information Science Reference, 2009, 135 at pages 138-139.
\item \textsuperscript{237}Federal Law n. 11.419/2006.
\item \textsuperscript{238}Katia BALBINO DE CARVALHO FERREIRA, Cyberjustice in Brazil – The Use of Technology to Enhance Access to Justice and Procedural Celerity, Master’s Thesis, Montreal, Faculty of Graduate Studies, University of Montreal, 2015, p. 71.
\end{itemize}
completely electronic based\textsuperscript{239}. Other courts have also incorporated technology in a number of their services, such as the\textit{acompanhamento processual}, which is an online lawsuit follow-up allowing people to obtain the most recent information relating to court cases, in addition to other online databases providing access to solved cases\textsuperscript{240}. To this effect, there is also a messaging system through which an individual can request that information regarding a particular case be sent to him via e-mail or text messaging\textsuperscript{241}. Additionally, while not commonly accepted by all Brazilian courts, there is a single Federal Court that allows oral arguments to be made via video-conference\textsuperscript{242}.

Other technologies adopted by Brazilian courts include the adoption of courtroom automation, whereby the judge, clerk and lawyers each have a computer workstation which they use throughout the hearing of the case\textsuperscript{243}. Many Brazilian courts, namely the Special Federal Jurisdiction courts as well as every labor and state court\textsuperscript{244}, also possess an electronic petition service which is a national Public Key Infrastructure (PKI) system that provides digital certification to lawyers throughout the petition submission process\textsuperscript{245}. Due to the fact that this service is not available in all courts, however, other courts allow for petitions to be sent via e-mail, in the same capacity as was permitted through fax\textsuperscript{246}. There is, however, currently a big push towards the adopted of a PKI by the Brazilian judiciary to ensure the integrity of the petitions and other data sent through e-mail. Though this move is being strongly opposed by the lawyer’s corporation, the probability of its adoption is likely\textsuperscript{247}.

Additionally, while not strictly regarding the use of technology by the judiciary itself, other integrations of technology into various sectors have been implemented so as to facilitate court processes, namely through the creation of a central database containing all general public data. Several processes, such as the acquisition an individual’s tax revenue or the seizure of a car, would generally have taken months to perform due to the level of difficulty of acquiring the necessary information. To avoid these undue delays, Brazilian courts have concluded agreements with several entities, namely the Central Bank of Brazil, the National Department of Transit and the Federal Revenue Secretariat in view of the creation of an online distraint service\textsuperscript{248}.

\begin{flushleft}
\textsuperscript{241} R. F. FILHO, \textit{Id}., 351; K. BALBINO DE CARVALHO FERREIRA, prev. cited, note 238, p. 63.
\textsuperscript{242} R. F. FILHO, \textit{Id}., 351.
\textsuperscript{243} R. F. FILHO and A. VERONESE, prev. cited, note 236, at pages 141-143.
\textsuperscript{244} R. F. FILHO, prev. cited, note 240, 351.
\textsuperscript{245} R. F. FILHO and A. VERONESE, prev. cited, note 236, at pages 145-146.
\textsuperscript{246} \textit{Id}., at page 141.
\textsuperscript{247} \textit{Id}., at page 141-142.
\textsuperscript{248} R. F. FILHO, prev. cited, note 240, 352; \textit{Id}., at pages 143-145.
\end{flushleft}
3.7 International Initiatives

There have been certain international initiatives towards Online Dispute Resolution systems, most notably (1) ICANN's Uniform Domain Names Dispute Resolution Policy, (2) UNCITRAL's creation of a working group to implement such a system as well as (3) the Electronic Consumer Dispute Resolution, also known as ECODIR.

3.7.1 ICANN's Uniform Domain Names Dispute Resolution Policy (UDRP)

Enacted in 1999, the Uniform Domain Names Dispute Resolution Policy (UDRP) is managed by the World Intellectual Property Organization (WIPO) and was created by The Internet Corporation for Assigned Names and Numbers (ICANN) for the purpose of resolving disputes arising out of trademark infringing domain names or abusive registration of domain names such as the act of cybersquatting or typosquatting. The UDRP function solely through written communications, thus excluding the use of in-person hearings whether it be by teleconference or video conference, and the default requirement is for all communications to be done electronically through the Internet, though the parties may decide otherwise.[249]

In order to be eligible to provide UDRP services, dispute resolution service providers must go through an accreditation process and receive approval to act in such capacity. Presently, the only UDRP accredited dispute-resolution service providers are: the Asian Domain Name Dispute Resolution Centre, the National Arbitration Forum, WIPO, the Czech Arbitration Court Arbitration Center for Internet Disputes and the Arab Center for Domain Name Dispute Resolution (ACDR)[250].

While the UDRP may be a solution to what was becoming a serious problem, it has not escaped the criticism that new systems are often subjected to, the most significant of which is the view that the procedure used by the UDRP is biased and generally tends to support trademark owners. Other issues include language issues (due to the fact that the UDRP's only official version is English which violates many national laws), cost issues (due to the fact that trademark owners can afford the cost of legal fees involved in pursuing with the UDRP which is often very cumbersome for the defendant), and time limit issues (which are also viewed to be more favourable to complainants as, for example, they have no time limit to institute a complaint whereas a respondent must respond within a 20 day timeframe which is often viewed as inadequate), among other things[251]. Despite these criticisms, however, no plans have been made to reform these rules in the near future.

[250] ICANN, "List of Approved Dispute Resolution Service Providers", online: <https://www.icann.org/resources/pages/providers-6d-2012-02-25-en> (consulted on March 9, 2015).
3.7.2 **UNCITRAL's Efforts to Create an Integrated ODR System**

Due to the fact that traditional legal recourse are considered to be an inappropriate solution for cross-border disputes arising out of e-commerce, UNCITRAL put together a working group, dubbed Working Group III, to research the possibility of creating an ODR system to handle these types of disputes. Since its creation, Working Group III has drafted procedural rules for the purpose of regulating the use of ODR in cross-border disputes in addition to having received proposals to this effect from several countries including Columbia, the United States and China, though a final set of rules has not yet been agreed upon.

One of the major issues that arose throughout the drafting of these rules revolved around whether or not to make arbitration mandatory, the issue being that certain countries do not recognize binding arbitration clauses. After a lengthy debate on the matter, the working group decided to regulate the matter by including a two-track system in the rules whereby arbitration will be mandatory in countries that do recognize such clauses, but individuals from countries that do not recognize it will simply be subject to further discussion aimed towards leading them down the path of ADR will remain optional in countries that do not.

That having been said, there is some debate as to whether the effective implementation of such a system is even possible in addition to whether or not this system will effectively protect consumers. Essentially, arbitration clauses will have to be drafted to take this two-track system into account, meaning that all clauses to this effect would have to state that individuals from countries where binding arbitration is prohibited will have to resolve their issues in the court system. However, consumers who are not knowledgeable as to whether or not binding

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255 Karim BENYEKHLEF and Nicolas VERMEYS, "UNCITRAL's WGIII on Online Dispute Resolution...a Seemingly Perpetual Tug of War", online: <http://www.slaw.ca/2014/12/05/uncitrals-wgiii-on-online-dispute-resolution-a-seemingly-perpetual-tug-of-war/> (consulted on March 29, 2015).
arbitration is prohibited in their country of residence will thus be at a disadvantage by being unaware of which rules will ultimately apply to them.\footnote{K. BENYEKHLEF and N. VERMEYS, prev. cited, note 254; \textit{See also}: Michael ERDLE, "Will UNCITRAL Online Dispute Resolution Rules Work for Consumers?", online: <http://www.slaw.ca/2012/12/04/will-uncitrernal-online-dispute-resolution-rules-work-for-consumers/> (consulted on March 20, 2015).}

3.7.3 \textbf{ECODIR}

Although the project has been terminated, ECODIR, which is an anagram for Electronic Consumer Dispute Resolution, was a project which was sponsored by the European Union, executed by the University of Montreal's \textit{Centre de recherche en droit public} (Center of Research in Public Law) in collaboration with the Université de Namur's \textit{Centre de Recherches Informatique et Droit} (Center of Research in Information Technology and Law), the \textit{Centre National de la Recherche Scientifique} (National Scientific Research Center) and the University College Dublin Faculty of Law, and a pioneer on European territory.\footnote{K. BENYEKHLEF and F. GÉLINAS, prev. cited, note 1, 5 and 100.} The aim of the creation of this platform was to provide European consumers with an electronic dispute resolution option.\footnote{Id., 5.}

ECODIR offered a free and voluntary dispute resolution process, which included the three stages of negotiation, mediation and recommendation, from which parties could have withdrawn at any point should they so have wished. Following an individual's creation and authentication of a confidential personal account, ECODIR's automated platform was able to be accessed to begin with the dispute resolution procedure. The first step that had to have been taken was the completion of particular forms (to which they can upload documents saved in many formats such as .RTF, .PDF, .TXT, .TIFF, .JPEG and .GIF) in which the problem was explained and a settlement was proposed.

Once submitted, the second party received an e-mail to the effect that a complaint had been made and was required to set up an account itself and proceed to begin negotiating with the first party within seven days, failure of which they would have deemed to have refused negotiations. In the event that they agreed to negotiate, however, they had the opportunity to describe their own version of events and ultimately proceed to provide a counter-offer to the first party's proposed settlement.

Once submitted, the first party received an e-mail notification to this effect at which point it presented with three options: (1) accept the counter-offer, (2) continue negotiating, and (3) ask that a mediator be appointed if the counter-offer is such that the first party would consider it pointless to proceed with further negotiations. If the third option is chosen, ECODIR's Secretariat appointed a mediator who, after consulting the information provided by both parties in addition to demanding any further information if deemed necessary, proposed one or more
solutions. At this point, the parties were able to accept, reject or alter the proposal in question as well as message the mediator to request additional information.

In the event that the mediation phase was not fruitful within a maximum of 15 days after it had begun, the parties proceeded to a recommendation phase at which point the mediator was allotted with four days to provide the parties with a recommendation with reasons. This being the last stage of ECODIR’s dispute resolution procedure, the parties were given seven days to accept the recommendation set out. In the event that they rejected the recommendation, the case was closed and no further steps were taken. If accepted, however, the parties were contacted by the Secretariat 30 days following the acceptance thereof so as to ensure that the recommendation had been duly implemented and to demand explanations if it had not.

Conclusion

Several advances have therefore been made towards the implementation of technology into the legal systems of a number of jurisdictions throughout the world – either through the use of online dispute resolution to avoid cases ever having to reach the courts or through the integration of technology into the courtroom to facilitation judicial proceedings – many of which have effectively experienced a reduction in the backlog of the judiciary as a result. Following these positive outcomes, it is difficult to deny that cyberjustice has much to offer the legal system, both in terms of efficiency as well as increased access to justice.

Although there may be concerns as to the ability to properly read a witness who is appearing remotely or to appropriately assess a piece of digital evidence, among other things, continuous advances in technology are increasing the ability to seamlessly integrate it into the courtroom experience in a manner that mimics traditional judicial proceedings as closely as possible, such as through holograms. With these additional advances, we are optimistic that a rising number of jurisdictions worldwide will recognize the advantages that cyberjustice has to offer and take the necessary steps towards implementing it into their legal systems. Hopefully, doing so will render it possible for unprecedented amounts of individuals to see their rights vindicated and to effectively access justice without undue procedural barriers standing in their way.

259 *Id.*, 100-109.