

# Court Information Technology: hypes, hopes and dreams

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*There are some people who live in a dream world, and there are some who face reality; and then there are those who turn one into the other. - Desiderius Erasmus*

## Summary

This article aims to provide some insights into digital justice from historical, practical, and future-oriented perspectives. First, the article provides an overview of the historical development of information technology (IT), from early tools to present-day digital environments. It shows how IT makes ever larger demands for change on organizations. Then, to understand how information technology can work in courts, the article looks at how courts process the information in court cases. How courts process information determines what IT courts need if they want to go digital. Next, an example from practice in the Dutch courts shows how a digital court procedure works, and how it improves court performance. The Dutch courts planned to go completely digital in three years, but abandoned their plans in 2018. Courts elsewhere also face difficulties going digital, and the next sections examine some of the reasons behind this. First, a look at how IT increasingly demands complements in order to work, then a model of court information processing, then a description of the workings and the technology of a digital commercial claims procedure developed in the Netherlands and a short summary of the knowledge about IT implementation failures. Fortunately, it closes with a few examples that provide some insights into more successful ways to digitalize courts. They are presented in the final section of this article.

## 1 Introduction: Courts and information technology

Digital justice has been a buzzword around the judicial reform community for quite a while.<sup>2</sup> We dream about improving access to justice, realizing faster procedures, and increasing justice in general. We are confronted with people trying to sell us artificial intelligence, predictive justice and robot judges, and we wonder how much of it is hype and how much has actual potential. While our lives are increasingly digital, courts hope to improve their performance with information technology: faster, more accessible,

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<sup>2</sup> Susskind, Richard (1998) *The Future of Law*. Oxford University Press. In this, his first and very influential book, Richard Susskind outlined his vision for the future of law with information technology.

better justice. In practice, we see court systems struggle to digitalize their procedures.<sup>3</sup> At the same time, their caseload is shrinking,<sup>4</sup> We also see a rise of online tools for “alternative” dispute resolution.

This article aims to provide some insights into digital justice from historical, practical, and future-oriented perspectives. First, the article provides an overview of the historical development of information technology (IT), from early tools to present-day digital environments. It shows how IT makes ever larger demands for change on organizations. Then, to understand how information technology can work in courts, the article looks at how courts process the information in court cases. How courts process information determines what IT courts need if they want to go digital. Next, an example from practice in the Dutch courts shows how a digital court procedure works, and how it improves court performance. The Dutch courts planned to go completely digital in three years, but abandoned their plans in 2018. Courts elsewhere also face difficulties going digital, and the next sections examine some of the reasons behind this. First, a look at how IT increasingly demands complements in order to work, then a model of court information processing, then a description of the workings and the technology of a digital commercial claims procedure developed in the Netherlands and a short summary of the knowledge about IT implementation failures. Fortunately, it closes with some examples that provide some insights into more successful ways to digitalize courts. They are presented in the final section of this article.

## 2 Three worlds of information technology

IT has come a long way since its early beginnings, yet its implementation in a judicial setting has been rather laborious and slow. In order to understand why court IT is so difficult to implement successfully, it is helpful to put the IT development in a broader developmental perspective. Andrew McAfee, professor at the Massachusetts Institute of Technology, distinguishes three worlds in information technology.<sup>5</sup> Each of these worlds enabled activities, but also required complements in order to make the IT work. As IT gradually enabled a larger proportion of human activities, it required more complements for implementation to be feasible. This makes increasingly heavier demands on the governance of the implementing organization.

*Function IT*, which supports the execution of a discrete task, for example registering cases, document production or researching case law. This is the world we know from the 1980s. This IT works stand-alone, it works without a network. It is relatively easy to implement because it does not require standardizing work processes or security.

*Network IT*, such as the internet, e-mail, more sophisticated case law databases or digital files needs a network to be able to work. This IT enables collaboration but does not enforce a specific working method. Users can share documents, but the system does not require a standardized way of doing it. In this second world, a user takes a tool, uses it, and then puts it back.<sup>6</sup> In the courts of this world, the

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<sup>3</sup> For more information on court IT development in Europe, see The European Commission on the Efficiency of Justice’s bi-annual evaluation reports, at <https://www.coe.int/en/web/cepej/cepej-work/evaluation-of-judicial-systems>.

<sup>4</sup> As expressed by participants in two round tables on court IT by the European Network of Judicial Councils, Amsterdam, May 2017 and 2018.

<sup>5</sup> McAfee, Andrew (2006) Mastering the Three Worlds of Information Technology, Harvard Business Review November 2006 (11), 141-149. <https://hbr.org/archive-toc/BR0611>

<sup>6</sup> My favorite analogy is that of a bucket. The user takes it from the kitchen cupboard when needed and puts it back after cleaning the kitchen floor. An enterprise IT system is an environment, it is an entire kitchen

paper case file is still the main carrier of information. The IT does affect the primary work processes by requiring standardization. This world emerged with the arrival of the Internet for everyone. In its simplest form, this world is a website that provides information to the reader. As web site technology evolves, the user can also perform an activity, for example download a form. The form can be filled in by hand and then sent in by mail or email. In a next phase, the user can also fill in the form and submit it online. Still a step further, and the user also receives the result of the transaction in digital form. But by then, we have already entered the third world of IT.

*Enterprise IT.* McAfee calls this the world of Enterprise IT. Here, organizations interact digitally with external users. In a fully digital primary process, IT is no longer a tool, it has become an environment. Users can only work within this environment. Workflows are managed digitally. This form of IT requires that work processes are predetermined and standardized. The work process only exists within the set rules. As such, the rules, regulations or formal laws, and the process merge; they become one and the same. The rules are no longer a tool that is external to the work process. They are coded into the digital work process. Regulation and code are merged into one. McAfee has studied the process of introducing Enterprise IT at many large companies. The transition from network IT to Enterprise IT, McAfee says, is the most difficult transition there is. Only organizations recognizing this in advance and taking measures for it will successfully manage this transition. Such measures include establishing decision rights about the process and about changes to the system, and they must be established in advance. Hence, for courts, in this third world, procedural law as well as practice rules and internal work processes will be encoded in the digital process. To facilitate development, decision rights about all of them – procedural law, practice rules and internal work processes, need to be established beforehand. Courts are organized to process cases. They are production organizations with very limited resources for innovation. Decision rights about work processes and regulation are geared to paper processes. They tend to respect the independence of individual judges to manage and decide their cases. If there are bodies setting standards, enforcement mechanisms tend to be weak or absent. The changes required by Enterprise IT to make digital processes work, are hard to make. To create some understanding of which IT may be useful for courts, and where to start with digitalizing primary court processes, the next section examines the court processes.

### 3 Courts process information

This section takes a step back. After realizing that implementing IT is difficult because it requires changes in the court governance and organization that are hard to make, this section looks at a different set of problems. To understand how information technology can be useful for courts, we need to know how courts process information. Case registration, word processing, search engines for case law are all different kinds of court IT. They all support different court work processes. Judges, lawyers, court staff and IT experts tend to discuss court IT without specifying what they mean by IT.<sup>7</sup> In order to facilitate conversations about court IT among judges, IT experts, and between judges and IT experts I have developed a matrix that visualizes what courts do when processing information in those different work

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<sup>7</sup> In my discussions with judges, court staff and others over the past 25 years, I discovered how judges talk about IT and mean their search engines, IT experts mean system development, and everyone imagines IT to be a case management system.

processes<sup>8</sup>. This matrix provides a conceptual framework to help make such conversations easier and more effective.<sup>9</sup> It may also hold some surprises for traditional thinkers.

Courts decide disputes. Their decisions also serve as a guideline for behaviour by others than parties to a case. This is generally referred to as the “shadow function of the law”. When courts decide disputes, they process information. How courts process information is relevant for the kind of IT that is useful for courts. Parties, be they the prosecution, someone appealing an administrative decision, a couple requesting a divorce or a party to a civil case, bring information to court. In most cases, another party is involved: the defendant, an administrative body, a party contesting a civil claim. The court processes the information, and at the end of the process produces an outcome. This outcome is new information. Courts transform information and turn it into new information that can be of use for the parties involved, as well as society at large.<sup>10</sup>

Court information processing is largely determined by two factors: (1) How unpredictable is the outcome, is the information provided sufficient to determine the outcome? (2) What is the relation between the parties? Do they exchange information for a win-win result, or do they withhold information to win for a zero-sum result? Below is first a description of how that works out.

A package of information comes into the court (someone files a case), that information can be sufficient to decide the outcome of the case in question. For example, a money claim that remains undefended, or a one-sided request that does not involve a second party. Cases like that belong in **group 1**. All the court does is provide a title for execution, for instance a payment order or a default decision. For this outcome, no information exchange between the parties is necessary.<sup>11</sup>

In **group 2**, parties bring a proposal to court, but the law requires the court to examine the request for legality. Here, parties do exchange and share information, and work together to put together their proposal. Most family cases are in this group, as do certain labour cases. The cases in this group have in common that they largely deal with long-term relationships and regulation is light. In this group, the court has a primarily notarial role, in verifying that all legal requirements have been met.<sup>12</sup>

So far, the outcome of the case was largely predictable. In more unpredictable cases, more activities are needed to transform the information to produce an outcome. Such activities can be requests for further information, another reaction from the other party, a hearing, a witness hearing, or a site visit to examine a location.

Sometimes, while the procedure is in progress, parties still reach an agreement between themselves to settle their dispute. This is **group 3**. In this group, parties work together, that is, they exchange and share information, for a settlement, a win-win outcome.

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<sup>8</sup> Reiling, Dory. 2009. *Technology for Justice*, how information technology can support judicial reform. Leiden, Amsterdam. Online at [www.dory.reiling.com](http://www.dory.reiling.com). On p. 120-122 of the book there is a full description of the methodology used.

<sup>9</sup> The matrix was developed for network IT, but it will work just as well for enterprise IT.

<sup>10</sup> Genn, Hazel (1999) *Paths to Justice* Oxford and Portland Oregon. This research has shown that court decisions do not always solve the underlying problem.

<sup>11</sup> This is the equivalent of the concept of a zero-sum game in game theory.

<sup>12</sup> Here, the configuration is similar to a win-win game.

If parties do not reach an agreement, a judgment is needed to bring the case to a close. This is **group 4**. In this group, whether the parties exchange information between them is not relevant for the outcome.

This give us a first impression of the way courts process information. Figure one provides a visual representation of these 4 groups.

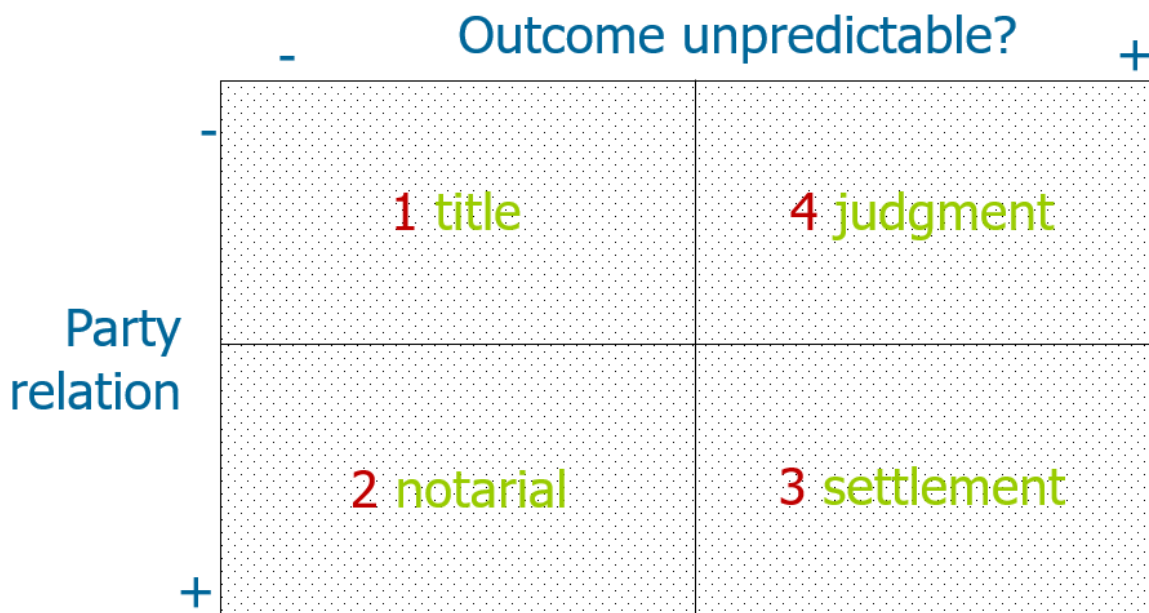


Figure 1 How courts process information

Next, it is helpful to find out how the total case load is distributed over the groups. In my research, I have found that for first instance civil cases in the Netherlands, group 1 is about 41% of the total case load.<sup>13</sup> Group 2 is about 36%. Group 3 is about 12%, and group 4 11%.

Group 1 lends itself to automation: with e-filing, court staff no longer need to enter the data into the court system. Because the outcome of the case is largely predictable, automating the process, or at least parts of it, is an obvious use of IT for this group. Most courts already do some of this. There may be some use for artificial intelligence in this group, for instance to sort cases into streams. This kind of technology belongs in the Enterprise IT world. It would require some regulation as well as agreement on decision rights.

For group 2, the IT of choice is the same, and additionally some form of internet support to help parties put together a proposal that will comply with the criteria the court uses to examine it. This support can

<sup>13</sup> Reiling, 2009. On p. 120-122 of the book there is a full description of the methodology I used. The percentages in the book represent the total case load including bankruptcy cases. A later insight made me exclude bankruptcies from the case load for the purpose of this breakdown, since their process is, in the Netherlands, not comparable to case disposition. In this article, I used the new figures.

be static information or a more interactive tool that can react to user input. Potentially, AI may have a role to play here.

For group 3, an added benefit can come from negotiation software.

Group 4 is what we regard as the main activity of courts and judges. It takes most of the judges' time, but in terms of case load, it only is a little over 10%. This may come as a surprise. In group 4 cases, the amount of information in the case file can be considerable, legal research needs to be undertaken to bring the case to a close. This is where digital case files, knowledge systems and search engines come in. Artificial intelligence may be helpful for structuring large case files and for research purposes. Figure 2 gives a visual representation of the appropriate IT systems per group.

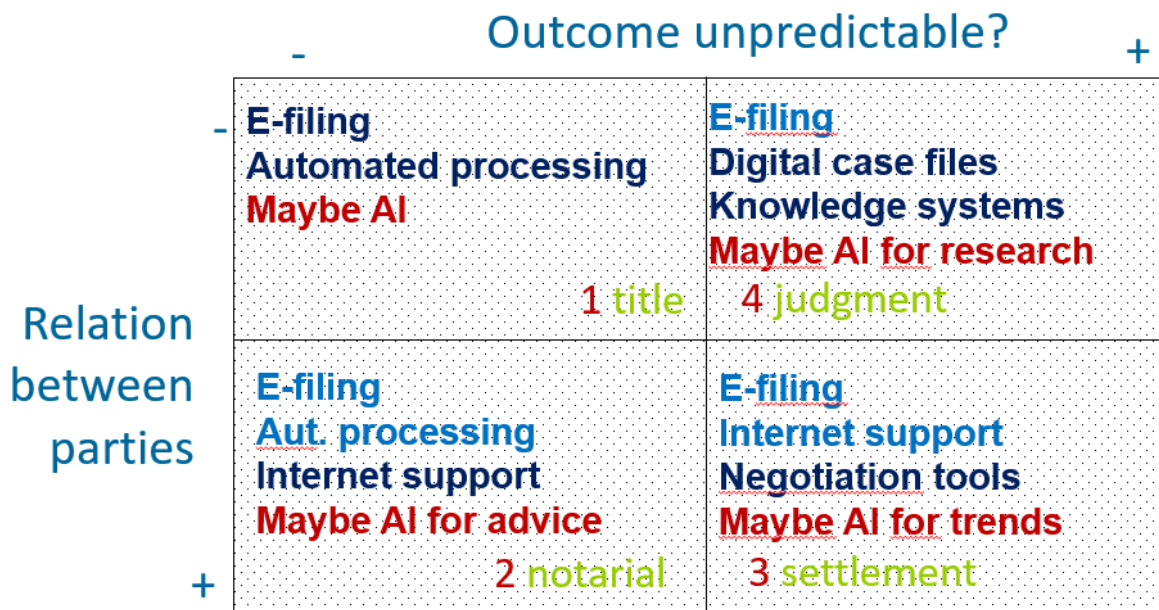


Figure 2 Information Technology for each group

Meanwhile, some courts in Europe and elsewhere have started to digitalize their procedures. Between 2012 and 2018, the Dutch courts strived to digitalize their procedures. I was responsible, as the “product owner” in agile development terms, for designing and building several procedures, notably an small claims procedure for amicable settlement and the civil commercial procedure.<sup>14</sup> They were both designed to support full group 4 processing. The next section describes the digital court procedure for commercial claims built for the Dutch courts.

<sup>14</sup> A product owner is responsible for ensuring IT is effective for users. More on agile development in the section on options.

## 4 Hope, dream, or hype? Digital procedures

What can a fully digital court procedure look like? The following section presents insights from the digital procedures I built for the courts in the Netherlands. I describe the digital commercial claims procedure I developed for the Dutch courts.

Starting September 2016, two first instance courts have piloted the digital commercial procedure system. Digital filing became compulsory for those two courts in September 2017. In June 2018, The Netherlands Judicial Council decided not to implement the digital commercial claims procedure in the other nine first instance courts.<sup>15</sup> The pilot courts went back to paper filing on October 1<sup>st</sup>, 2019. At that time, 3792 cases had been filed.<sup>16</sup> Those cases are disposed with full use of the system, that stays in operation for the duration of the cases filed during the pilot phase.<sup>17</sup>

Although the system was never implemented in all courts, it is useful to sketch how the system works. Not many court systems have fully digital procedures. That makes it informative to discuss the system, both as a factual description of a working system, as well as an example of how a digital civil court procedure may look. The procedure described here is supported by enterprise technology, in McAfee's terms. It is a digital environment that supports all four groups of court activity. It first describes the way a digital procedure may run. It then discusses the specific digital functionalities designed for the procedures.

### 4.1 The procedure

This section describes the court procedure as it works with the digital system, from starting a case to receiving a judgment. The description does not go into the details of procedural law.

*Starting a case.* A lawyer can start a civil case in different ways.<sup>18</sup> (1) The lawyer of the claiming party first submits the claim with grounds and evidence to the court. (2) The lawyer first serves the claim on the defendant and then submits the claim to the court. E-filing is restricted to lawyers and their authorized support staff because authorization to access the information in the case files requires a secure identification of the person accessing the court system. In the Netherlands, lawyers log in to the court system through the Netherlands Bar portal, with their lawyer's pass, a smart card. Their support staff can log in with their own pass.<sup>19</sup> The system stores which card was used for the login.<sup>20</sup> The system calculates the court fees based on the stated claim. Lawyers can pay the calculated court fee in the filing process via their current account with the court system, their bank account, or they can request an invoice and pay within 28 days from filing.

Immediately upon filing, the court's case management system generates a case number, creates a digital case file, provides the lawyer with the URL to the case file, and assigns the administrator the task to check the filing, and also the court fees. All this usually takes no more than ten seconds.

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<sup>15</sup> Press release of June 28, 2018 on Rechtspraak.nl. Press release on Rechtspraak.nl of 15 November 2018 and letter from the Judicial Council to the Minister for Legal Protection of 6 November 2018.

<sup>16</sup> Information from the NL judiciary's IT organization.

<sup>17</sup> The Dutch administrative courts use a similar system that was built on the same platform for all immigration habeas corpus procedures nationwide. They have processed more than forty thousand cases since the start.

<sup>18</sup> New Civil Procedural Law, *Wetboek van Burgerlijke Rechtsvordering*, in force from September 1, 2016 to October 1, 2019 for pilot courts Midden Nederland and Gelderland.

<sup>19</sup> Article 5, 1 f, REGULATION (EU) 2016/679 (EU General Data Protection Regulation), which replaced Directive 95/46/EC on May 27, 2018.

<sup>20</sup> This secure identification is, for others than lawyers, in place in some countries, but in most countries it is not.

*Involving the other party.* Involving the other party is usually the next step in the case. Involving a defending party can be very complex. There are several ways for involving a defending party: notification by the court, or by the claiming party's lawyer, either before or after filing the case in court. In the Dutch case, the claiming party's lawyer notifies the defending party. For notifications after filing, Dutch civil procedural law allows informal notifications. The lawyer can also opt for formal service by a bailiff, both before and after filing the case with the court. In all cases, the summons notice is generated by the court system in a standard format. The system monitors whether the defending party joins the case. The defending party's lawyer can access the case file using the access code that is included in the summons notice. The defending party's lawyer can decide to join the case on behalf of one or more parties. The lawyers will pay the court fee online, as calculated in the filing process, using their current account with the court system, their bank account, or they can request an invoice.

The system sends a message to the claiming party's lawyer: defending party joined the case and assigns the defending party's lawyer a task to file a defence within six weeks from joining the case.

If the defending party did not join the case within the term specified in the summons, the system reports this in a message to the claiming party's lawyer. Generally, the system will then assign a task to check the claim, and have an administrator issue a default judgment, subject to instructions and sign-off by the responsible judge. This makes it a group 1 case.

*The case in court.* Now that the case file is complete with a claim, a defence, possibly a counterclaim and a counter-defence, the system generates a task to assign a judge to the case. The court determines who can or may assign a judge to the case. Whoever performs this task will assign a judge or a panel to the case. Assignment of judges to cases is also decided by the court itself.

The system then assigns the case judge the task of deciding whether a hearing should be held in the case or not. In case of a hearing, the judge sets the agenda for the session, the time allotted to the hearing, and any detail relevant for hearing planning. The hearing planner, using this information from the judge, plans the hearing. The hearing planner can request availability dates from the lawyers in an exchange of messages. As there is no standardized procedure to set hearing dates, the system allows courts to either set a hearing date and time directly or use the messaging system to request availability for hearing dates.

The administrator will finalize the hearing invitation. The agenda for the hearing is in the invitation. The system places the invitation in the digital case file and sends the lawyers a message and a notification. The lawyers can use messaging to request a date change for the hearing. The administrator may change or cancel a hearing.

*The hearing.* The hearing team - the judge and a paralegal or a hearing clerk - can prepare for their hearing in the case file viewer with a form designed for hearing preparation. In the case file viewer, they can: filter or sort documents, annotate, bookmark, and include links in the preparation form. During the hearing, the judge can present a document to the parties and the audience on a large screen using the case file viewer. The court clerk can create session notes in an ordinary word processor and add them, as pdf A, to the internal part of the file.<sup>21</sup> At the end of the hearing, the judge determines the next process step. The system has assigned the judge a task for this purpose. These are the options:

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<sup>21</sup> Hearings are not routinely recorded on either audio or video.



- The case is settled (group 3): the case can be closed. Someone will be assigned a task to close the case.
- More information is needed (group 4): one party will be assigned the task of providing it, after which the other party gets the task of reacting to it.
- More discussion is needed (group 4): a new session can be scheduled immediately in consultation with the parties.
- The information is sufficient for a decision (group 4): The judge can deliver a judgment orally during the hearing, or a hearing team member, assigned with drafting a judgment, will get the task to do this. The judgment must be proclaimed within six weeks from the hearing date.

The hearing clerk can make an official report with an ordinary word processor. It will be saved as a pdf-A document and signed by the judge. It is part of the case file.

*Judgment.* The judgment can be drafted either by the judge or by support staff. The courts use templates and standard texts for the judgment, and of course, considerations and decisions pertaining to the individual case. Party names and other information will be retrieved from the case data. Information in the case file and from sources of law and case law can also be inserted by cutting and pasting from those sources and the knowledge systems. The judge finalizes the judgment with a digital signature. The administrator/registrar makes the decision ready to be shared with the parties and uploads it to the case file. The system sends the parties a message and a notification to signal that the judgment has been issued. The administrator registers additional information for accountability purposes and closes the case. Case information remains accessible for the parties at least until the term for appeal has expired.

#### 4.2 Key features of the system

*Digital case management: tasks and activities.* The backbone of the system is digital case management, balancing strict process control with flexibility in case management. To do this, the system includes tasks and activities. Tasks are required by the process, activities are optional.

Some tasks are required by law or lower regulation. Therefore, they are assigned by the system based on the previous event. So, immediately after the defending part joins the case, the system automatically assigns a task to file a defence to the defending lawyer. The system sends a message to the defending lawyer containing the task and the term within which the task needs to be completed. The case management system also monitors the term within which the task needs to be completed. Sometimes the system cannot automatically set a given task for a participant in the system. This is the case when someone sends a letter or makes a request that needs to be decided by a human. The system will then assign a task to determine the next step, first to an administrator. The administrator can refer the task of determining the next step to the case judge. The court can also, when needed, assign tasks to case-related persons. Tasks are actions prescribed by the law, by procedural rules or by a decision of the case judge. Tasks have a due date. Due dates, for example for lawyers, are usually regulated by law. If they are not, then the practice rules set the due date at two weeks. In our example, internal tasks for the courts have a due date of five working days.<sup>22</sup> Besides tasks, there are activities. In exceptional

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<sup>22</sup> This was the compromise reached after some discussion. Individual courts now work with due days on a standard day of the week. Court staff process incoming documents always on this day. And although this is no longer necessary with 24/7 e-filing, they wanted to still be able to process incoming information on this standard day. With a due date of five working days for processing, court staff can still keep processing on their standard day.

situations, a court user can digitally decide to perform an activity, like sending a message to a party. An activity will then generate a task.

*Roles.* The judge, the clerk, the session planner, and the court administrator have different roles in the process. These roles determine which tasks and activities they need to be able to perform. Role assignment is flexible. Not all courts are organized in the same way. The courts determine who has which role, who can perform which tasks and activities and which judge can be assigned to a case. The administrator role, for example, does not have to be a single person; it can be performed by members of the administration team.

*E-filing.* Lawyers file cases either through the web portal or the systems interface. Information can be sent to the court in a structured way in a form or as a document. Filing a case will usually involve a combination of both information in a form that will feed into the court case management system and information about the content of the case. The content information can either be entered in a form with text fields, or in a document that is attached to the filing. In our example, the information filed feeds into the court system directly. The system turns it into a case file automatically upon filing.<sup>23</sup> There is a single case file in each case. In our example, all parties have access to the case file. The court has a dedicated section in the case file that is not accessible to the parties.

*Messages and notifications.* The lawyers, the judge and other parties involved in the case communicate with each other via messages. Messages are a simple way to exchange information quickly, for instance about procedural and hearing planning issues and part of the case file. With every event in the case, the system sends case-related lawyers a notification on a self-chosen email address. Notifications alert lawyers to new information in the file. In the system interface, the notification is sent to the law firm's system. As email can be a non-secure way of transmitting information, the information does not contain any personal information, only the case number and the event, just enough to alert the recipient to a change in the case. What the event is, is contained in the message that is in the secure case file itself.

*Forms and documents.* For formal steps (steps with legal consequences) in the process, the system provides smart forms. The form gathers information from the participants by asking questions and providing text fields for more detailed information. Participants can attach documents to the form as well. The system manages steps in the case with structured information from the form. Two examples: After a filing, the system assigns two tasks to the administrator role: checking the filing and the court fee. And if the defending party's lawyer submits the statement of defence with a form, this can include evidence and possibly a counterclaim. In the event of a counterclaim, the system automatically gives the claiming party's lawyer a task to file a defence to the counterclaim within two weeks.

The forms also contain information in text fields. The system extracts this information from the form and lays it down in a pdf-A document.<sup>24</sup> All documents are kept in a digital case file in pdf-A format. This format ensures the documents in the case file are unchanged.

### 4.3 Hope or dream come true? Improvements

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<sup>23</sup> In some countries, the information filed is first examined, and then admitted to the court system.

<sup>24</sup> Pdf-A is an ISO-standardized version of the Portable Document Format (PDF) specialized for use in the archiving and long-term preservation of electronic documents.

Article 6 of the European Convention on Human Rights (ECHR) sets the standard for court cases in Europe. Court cases are governed by the right to a fair procedure. The digital procedure can bring considerable improvements to the way this procedure complies with article 6 ECHR. Experience with the digital procedure in the two pilot courts has already shown that compliance with the right to a fair procedure in Article 6 of the European Convention on Human Rights may increase in several ways:

- Easier court access through digital case filing that is instantaneous, instead of filing documents through a fax machine. The lawyers included in the pilot schemes were happy with this much more efficient way of filing their cases.
- Equal access to information and increased transparency since parties' lawyers all have access to the single original digital case file, instead of separate paper files that may not be complete and identical for each party and for the court.
- Less delay with instant messaging and automated case management. One full adversarial procedure, including a hearing, was completed in seven weeks.<sup>25</sup>

There are also other improvements. The civil procedure was simplified, which made both the IT and the case management less complex. Digital documents are kept in a persistent format with metadata on their status, which increases information security. Information on the status of court procedures was made publicly accessible.<sup>26</sup>

The most important element of how a fully digital court may work is its digital case management: the combination of procedural rigor of tasks that need to be done and due dates that need to be kept, with flexible case management using message traffic and activities in reaction to events. Unfortunately, the Dutch courts never fully experienced the improvements of the new system, since they decided to not implement the system in all first instance courts. The next sections will try to explore some lessons that can be drawn from this unfortunate development.

## 5 Nightmares: Why is reforming court procedures with IT so difficult?

Why is court IT so difficult? More than ten years ago, my fellow judges plagued me with this question when I was writing my book about Technology for Justice. So, I decided I had no choice but to investigate. The shortest answer to this question is that, in all IT projects, complexity is underestimated.<sup>27</sup> This section examines this insight in more detail, in order to better understand what made the Netherlands judiciary ultimately abandon the digitalization program.

Spray polyurethane (PUR) foam into a space, and it will extrude from all the weak spots. Just like PUR foam, developing and implementing IT will bring up all the weak spots in an organization. IT projects often do not go well. They do not deliver the desired result, they take longer or cost more than expected.<sup>28</sup> More than half of all IT projects - not just those of the government - partly fail, and between 4 and 15 percent of projects fail altogether.<sup>29</sup> A project that costs more or takes longer has not failed as

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<sup>25</sup> Netherlands Judiciary case data, not public

<sup>26</sup> <https://www.rechtspraak.nl/Registers/Zaakverloopregister>

<sup>27</sup> Reiling 2009, p. 60-80 provides a more detailed description.

<sup>28</sup> At the request of the House of Representatives, the Court of Auditors investigated large government IT projects. The Court of Auditors reported in 2007. Algemene Rekenkamer (Court of Auditors) Lessen uit ICT-projecten bij de overheid. Deel A, p. 9.

<sup>29</sup> Algemene Rekenkamer (Court of Auditors) Lessen uit ICT-projecten bij de overheid. Deel A, p. 9.

long as the functionality is used. An IT project can be regarded as a failure if the developed functionality is not implemented. The previous section showed that the digital civil procedure was implemented in two courts, it is in use, but not in all courts.

We now know from countless evaluation reports of failed IT projects what causes IT projects to fail partially or even completely. Usually this is due to an underestimation of complexity. The development, implementation and control of IT are always more complicated than we can oversee in advance. The failure lies in the underestimation of the fact that complications may occur, and of the complications that occur during the course of the process. Below are a few examples, with illustrations from the Dutch practice.

Government IT projects are politically complex. The Committee on Fundamental Reconsideration of Civil Procedure, set up in the early 2000s, had advised to omit the distinction between claims and requests procedures in civil justice.<sup>30</sup> Because legal practice resisted this change, the distinction in the procedural legislation stayed. Consequently, that meant different procedures, more software, more work and higher costs.

Another example: The development of the digital procedure had to follow the development of the new civil procedural code in parallel. This meant that adaptations in the proposal for the law caused changes in the design of the digital procedure. In the course of the process, an article that allowed involving the other party before bringing the case to court was introduced, to meet a demand from the bailiffs. The design for digital access in civil cases had to be drastically revised. It led to serious security concerns. All this caused considerable delays and extra cost.<sup>31</sup>

Third example: The Ministry of Justice wanted to implement the digital civil procedure in one operation in all nine non-pilot courts. From the point of view of introducing the new procedural legislation, this was the easiest way. But from the point of view of introducing a completely new digital working environment for the courts, it is risky because all nine courts will be confronted with new procedural legislation, new working methods and new technology at the same time. In early 2018, the Ministry decided it would no longer bear the cost.

Programs and projects are too ambitious. The ambition for the Dutch courts was to digitize all court processes in three years. That would result in a savings of 43% in the administrative workload. Those savings would provide financing to complete the projects. When the development took longer than expected (see the previous point) and the procedures were not implemented within the expected time frames, the cost savings were not realized in time.

Programs and projects also underestimate the risks and what is needed to change the organization and the users. At first, the costs of change in the organization were not included in the budget, and later they were still underestimated. In administrative procedural law little changed. But the innovations in civil procedural law and the requirements imposed by legislation on implementation in civil procedure - compulsory digital, implementation in one operation - made implementation extremely complicated.

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<sup>30</sup> Uitgebalanceerd. Eindrapport Fundamentele herbezinning Nederlands burgerlijk procesrecht Prof. mr. W.D.H. Asser Prof. mr. H.A. Groen Prof. mr. J.B.M. Vranken m.m.v. mevrouw mr. I.N. Tzankova, 2006, p. 100.

<sup>31</sup> Article 113 New Civil Code.

In the development of the Dutch civil commercial claims procedure, all complexity and risks came together in a toxic conflagration. Important changes were made to civil procedural legislation to speed cases up. These changes mostly had nothing to do with digitalization itself. Translating the new digital procedure into work processes, something that was ongoing with the two pilot courts, was far from complete. Implementation in the other nine first instance courts, so much was clear, was going to be very complicated. To make matters worse, funding ran out before the procedure could be implemented in all courts.

## 6 Making the dream come true: Options for court IT

So, after all this, the question to be answered is: how to effectively develop, build and implement court IT? The short answer is: Simplify, simplify, simplify. The longer answer says it depends on several elements.

*Agile development and experimentation.* Nowadays, information technology enables fully digital processes. As McAfee has pointed out, this is radically different from introducing tools that can be used as needed.<sup>32</sup> The standard for developing digital processes is agile development. Agile development is a strict methodology to design, develop, build, and test technology in an integrated way.<sup>33</sup> It is a framework for experimentation. Its starting point is not what the technology can do, but what the user needs to be able to do. Consequently, for development to be successful, users need to be involved – one way or the other - in the development and implementation process from the start. Testing will gradually become more like real life, and at some point, the first real case will need to be conducted using the new technology. This means that the line between design, development and implementation becomes blurred. The development process, of both the work processes and the technology, will continue after implementation, it will never stop. Agile development requires experimentation, finding out what works and what does not. Finding out what does not work means things will go wrong a lot of times. This does not match well with legal and court culture. Legal culture tends to be quick to find someone to be blamed if something goes wrong. Blaming in retrospect does not help innovation. More specifically, court culture is also a concern. Courts and judges are the guardians of the existing legal order. Their work is looking back and deciding who should get the blame for what went wrong. This means that looking ahead and envisioning how to innovate does not come naturally to them.

McAfee's findings imply that successful implementation of a digital environment needs decision rights and work processes to be in place before the start of the project. This makes governance an issue: who decides what, and when?

A final aspect is the legal basis for the experiments. For judgments to be enforceable, the procedures need a legal framework once they go live. At this point, the development process is not complete. How to legally frame the development is a serious concern. Concluding, the legal basis for the transition, governance in regarding decision rights and work processes, requirements of agile development and pilots, and the capacity for implementation are the main determinants of IT approaches for courts.

*Three approaches.* From all the above, three approaches for court IT development emerge.

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<sup>32</sup> McAfee 2007, <https://hbr.org/archive-toc/BR0611>.

<sup>33</sup> <https://agilemanifesto.org/>.

**Replace existing processes** completely. For relatively short, simple procedures, like the ones in groups 1 and 2, replacing entire processes may work if the aspects discussed in the previous section can largely stay the same:

- The legal basis for this procedure already exists.
- Decision rights can also stay the same when the work processes, although digitalized, basically stay the same as well.
- Agile development is viable if the process can be piloted in a single case, on a voluntary basis.

If these conditions are met, implementation will still not be easy, but it can be successful.

**Reform existing processes.** Longer running procedures like group 3 and 4 cases, for instance adversary civil proceedings, turn out to be the most difficult to digitalize. Replacing longer running existing processes in one operation is extremely complex and costly. Existing processes were designed for processing information on paper. They will need redesign, for processing digital information is quite different from handling paper case files. If they should provide the full advantage of digital processing, they will need a thorough redesign. They will most likely need changes to the legal basis, decision rights and work processes. Starting from the front can be done by designing a process for the cases in my group 1. This would involve e-filing for all cases, and digital case handling for cases in which no defence is filed. There are examples of reforming existing processes, either starting from the front, with e-filing, or from the back, starting with a digital case file.<sup>34</sup> Now that the digital commercial claims procedure will not be implemented any further, the Netherlands judiciary is planning to develop simple e-filing. It is also developing a digital case file.

**Design an entirely new process.** This model appears to be successful. Designing and building an entirely new process or even a new institution for processing cases, is not burdened with the constraints of existing legislation, decision rights, and work processes. An early example is the United Kingdom's Money Claim Online.<sup>35</sup> This tool, a "one-trick-pony", was designed for handling relatively small money claims only. It quickly became immensely popular, since e-filing meant that small businesses no longer had to come to a court building with restricted opening hours in person to file a claim. Apart from its user friendliness, another lesson is in the gradual development of Money claim; first only e-filing for the claiming party, later also e-filing for the defending party. Another, more recent, example is the Civil Resolution Tribunal in British Columbia, Canada. The Tribunal is a new institutional body set up to handle disputes between owners and tenants of subsidized housing. Its jurisdiction is now gradually expanding into other areas of civil justice.<sup>36</sup> Using agile development, it also increased services to the users, with a solution explorer to help users decide what to do in their individual situation. Since it is fully digital, it has had no difficulty working during the COVID-19 crisis.

These models may not exist in their pure form, there will be hybrids. However, in each case, factors to be considered are the legal basis for the transition, decision rights and work processes, requirements of agile development and pilots, and implementation. The more change in the existing situation is needed, the more difficult, time-consuming, and costly the transition will be.

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<sup>34</sup> An early example of e-filing is that of the courts in Austria, followed by the courts in Spain. The Austrian courts as well as the Dutch courts are now experimenting with digital case files.

<sup>35</sup> [www.moneyclaim.gov.uk](http://www.moneyclaim.gov.uk) last visited April 26 2019

<sup>36</sup> <https://civilresolutionbc.ca/> last visited April 26 2019.

## 7 Conclusion

Digital court procedures can improve court performance in terms of access to justice, transparency, and faster case disposition. However, the dream of fully digital court procedures can easily turn into a nightmare. Experience is that introducing information technology to courts is difficult, slow, costly, and not always successful. Courts process information in different ways, depending on the cases in question. Different processes are best served with different kinds of technology. Simple, predictable processes profit most from e-filing and automation, complex processes involving research need search engines and knowledge systems.

The article included a - necessarily - general description of the digital commercial claims procedure developed in the Netherlands. Digital case management combining procedural rigor where needed with flexibility when necessary is the backbone of this procedure.

Introducing a fully digital process to replace a paper-based process with supporting IT tools is complex. The article discussed, in order to understand the complexity of moving from a paper-based process using IT tools to a fully digital process, some aspects of this transition for courts: governance, legal and court culture, understanding information processing and underestimating complexity. Finally, the article identified three approaches for developing and implementing IT for courts, based on the known factors involved. And with implementation as well as with the technology choices, different procedures will need an approach based on the factors involved: the law, decision rights, and work processes. Implementation will be more complex as more change to the existing organization is needed.