Digital Tranformation in the Legal Industry

Conclusions
Part 2: Technology





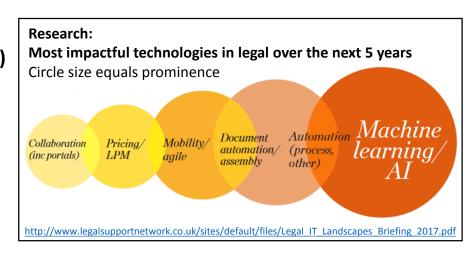
Extract of New & Existing Technologies

Technologies in **bold** are covered in this report

- Artificial Intelligence (AI)
 Machine Learning (ML)
 Analytics
- Crowdfunding & Crowdsourcing
- Facial Expression Recognition
- Natural Language Processing (NLP)
- Chatbots
- Blockchain
- Smart Contracts
- Smart Forms Configuration
- Robotic Process Automation (RPA)
- Price/Project Estimation

- Workflow & Collaboration
- Cloud & Big Data
- Platform/Software as a Service (PaaS & SaaS)
- Blogs
- Chatbox
- Virtual (Digital) Assistants
- IoT Internet of Things
- Practice Mgmt Solutions (ERP)
- Dashboards
- Cryptocurrencies (Bitcoins)
- Social Media

- Customer Relationship Mgmt (CRM)
- Mobile Apps
- HTML5 & Responsive websites
- Augmented Reality
- Virtual Reality
- Quantum Computing

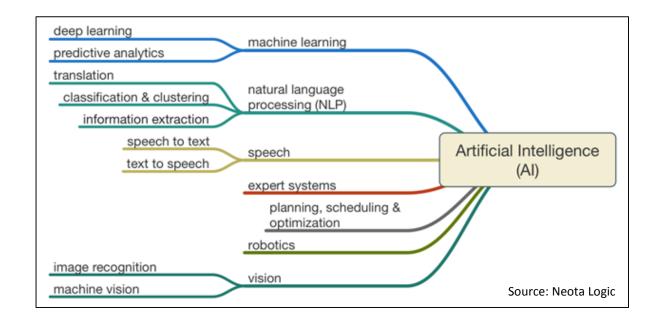


Artificial Intelligence (AI) Machine Learning (ML) Natural Language Processing (NLP) Analytics



What is Artificial Intelligence

- A computer system that can perform/mimic tasks normally requiring human intelligence
 - E.g. learning, problem solving, visual perception, speech recognition, decision making,
- Requires (today) human beings to develop the algorithms and teach the system what to look for
 - E.g. words, sentences, patterns, exceptions, anomalies,.... i.e. "filling in the blanks" for the algorithm to work
 - Some systems (Cognitive, Deep Learning) can modify the algorithm as the system learn (becomes smarter)
 - The system becomes more and more accurate (smarter) the more it is used
- Usage areas:
 - Due diligence, contract review, predictions on case outcomes, assets and properties, legal search and -research,





Why use AI in Legal

- **Fast** can save 20-90% of the time it takes a lawyer to do the same work
- Accurate the quality of the outcome increases the more the solution is used. Accuracy quickly reaches +90%. A human being typically has an accuracy of ~85%
- Meticulous finds clauses, wordings etc. that lawyers would normally not find
- Tireless works 24/7 with the same speed and quality all the time
- **Inexpensive** costs less than a digital data room
- Frees up time lawyers can focus on more value creating tasks for the customers
- Improved profit reduced costs and less time spent on tasks that the lawfirm normally can't charge full/normal fees for
- **Improved jobsatisfaction** lawyers can focus their time on more interesting challenges vs. read tons of documents to find certain clauses etc.

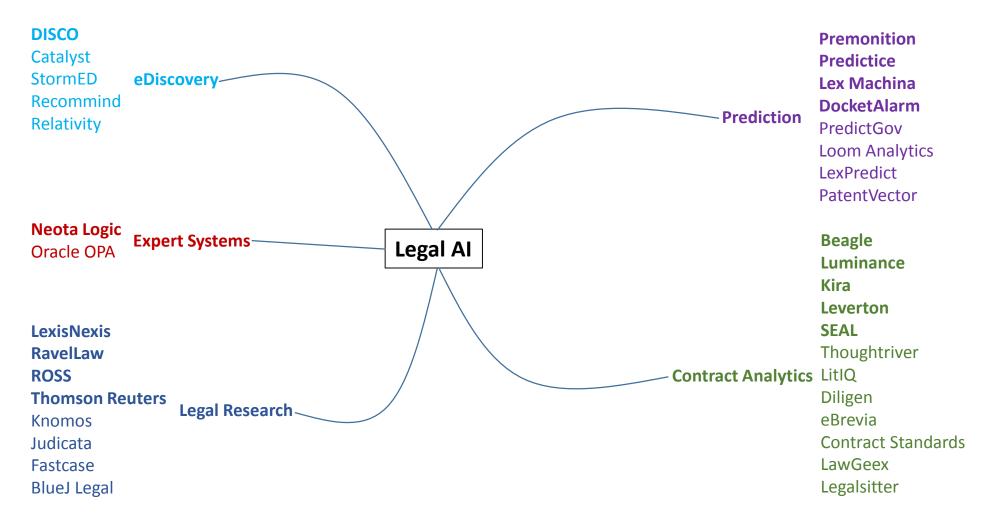
General observations about AI in Legal

- Most AI solutions today need to be trained by humans in order to deliver value / high accuracy in results
- Depending on the complexity of the task to be executed, training of the AI solution may take considerable time time that typically cannot be charged to a customer
- Once trained, the solution becomes smarter and more accurate, the more it is used
- Al solutions already exist and more are on the way that are "pre-configured/pre-trained" i.e. requires little/no training. Known as "Self Service Portals" or "Pay-as-you-go Portals" (e.g. Luminance, RAVN's Extract Direct,...)
- The solution will retain the knowledge in the firm when a lawyer / partner / subject matter expert leave the firm i.e. loosing a good lawyer may be less of an issue in the future
- Cost of using AI in a due diligence project today (likely to change significantly in coming years) varies greatly
 - Luminance: ~EUR 1.200/GB*; RAVN: ~EUR 5.000 for 100 contracts (incl. setup)**; Kira: ~EUR 10.000 per project
- Potential issues w. Al solutions:
 - Integration to data rooms (encrypted data + access/login), Languages (non-English) and new areas (outside of due diligence/contract mgmt.) may require significant training

^{*1}GB is equivalent to ~ 60.000 (Word) – 650.000 (Txt) pages

^{**} Number of pages in contracts irrelevant

Al systems by category



RAVN



LOCATION: UK

URL: https://www.ravn.co.uk/

INFO:

Founded 2010: 51 - 200 employees. Acquired by iManage 24th May 2017

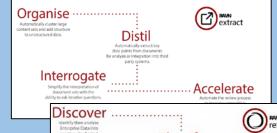
- ~45 law firm customers in DK: Bech Bruun
 & Kammeradvokaten (Enterprise search) and
 DJØF (employment contracts)
- Requires RAVN people to setup solution
- Requires training in Danish language
- Price: ~EUR 5.000/100 contracts (Incl setup) _
- BLP Real Estate Group: "Completes two weeks work in ~two seconds!"

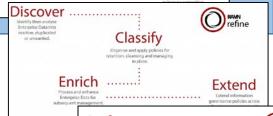
FUNCTIONAL AREAS:

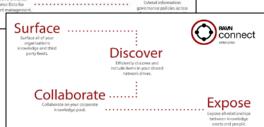
- Process, Read & Analyze Documents
- Data Extraction and comparison
- Due Diligence & Contract Analysis
- GDPR compliance
- ISDA/CSA Review & Provisions impacted by Brexit

SOLUTION(S):

- RAVN ACE Applied Cognitive Engine
- RAVN Connect Advanced Enterprise search
- RAVN Extract Direct Due Diligence & Contract Analysis - plug n' play (no training of the Al solution required)
- RAVN Refine Categorize data into clear scopes and refinements
- RAVN LLP Robot Doc. Review for legal professional privilege (eDiscovery)













https://ravn.wistia.com/medias/fgc85hiw83



Intro Video:

https://www.youtube.com/watch?v=XdTLLg6mKf0





Chatbots



Chatbot - definition

- A chatbot is a computer program which conducts a conversation via auditory or textual methods.
- Such programs are often designed to convincingly simulate how a human would behave as a conversational partner, thereby passing the Turing test.
- There are two main types of chatbots, one functions based on a set of rules, and the other more advanced version uses artificial intelligence (AI)
- A chatbot that uses artificial intelligence, understands language, not just commands, and continuously gets smarter as it learns from conversations it has with people

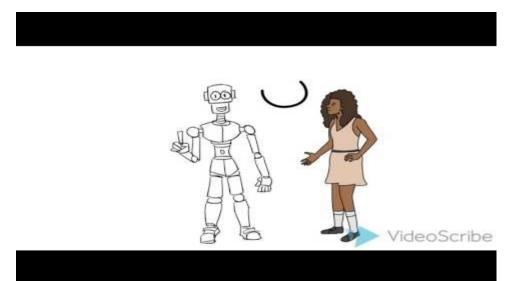
Examples of consumer oriented chatbots:

• Siri (Apple), Cortana (Microsoft), Assistant (Google), Messenger (Facebook), Slack,....

Source: Wikipedia

What is a Chatbot

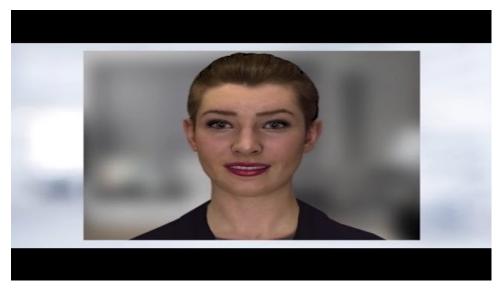
What is a Chatbot



Intro Video:

https://youtu.be/iUK17vtQuuE

Nadia from NDIS in Australia National Disability Insurance Scheme



Intro video to Nadia – Uses Cate Blanchett (Australian actor) to replicate speak and appearance https://youtu.be/0tUSsqOLZC8

Demo Video:

https://www.facebook.com/futurism/videos/738400809672454/

Example of usage areas in Legal:

- Answer legal questions, read and comment on agreements, help fill in documents,....
- Contact relevant authorities, provide input on "who to talk to",....
- Help to homeless people, immigrants, refugees, tenants get landlords to do required maintenance,....
- Help with divorces, criminal offenses, NDAs, will's, parking tickets, flight delays,.....

Why use Chatbots

- Improve service and Increase margin improve client relationships and increase profitability. Chatbots are patient, treat everyone equally, never get tired, are objective
- Convenience and Independence Spend your precious time in areas that add most value to your company / customers
- Time intensive For the client there's too much time involved in liaising with a human lawyer
- Availability Human lawyers aren't available 24/7/365
- **Legalese** Talking to human lawyers can involve a great deal of jargon, which may mean that the client doesn't understand or make the uninitiated feel intimidated. A chatbot talks to the client in a "normal", easy to understand way without any legal jargon
- **Embarrassment** It may be uncomfortable talking with a human lawyer due to the subject or for fear of feeling intellectually inferior

Source: http://robotlawyerlisa.com/ et al

General Observations

- Advanced chatbots using AI are experiencing tremendous uptake across all industries by 2020 more than 85% of customer interactions will not include a human being
- In the future chatbots will be incorporated in most "devices" (from the fridge to the car) that require human interaction
- Chatbots will interact with other systems and devices and provide proactive information (your milk is near expiration let me order a carton for you)
- What does a Chatbot do:
 - It provides better customer service 24/7 unmanned
 - It provides "convenience" by providing insightful information when you need it
 - It offers services (for free) that were previously not available to the client
 - It provides intelligent, easy to understand answers to complex questions
 - It takes action writes letters, contacts persons/organizations/authorities/other systems/.....
- Development tools are becoming more "user-friendly" i.e. not requiring developers to develop the chatbot
- In the future we will likely see new chatbots being built by non-technical people simply by them communicating with the development tools telling them what they want

Example of Chatbot: DoNotPay

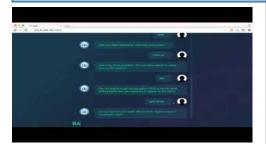
LOCATION: UK

INFO:

- Access to Justice
- Free
- Created by Joshua Browder 19 years old
- Available in the US, UK, CAN

TECHNOLOGY:

- Chatbot
- Machine Learning
- Facebook Messenger (refugee chatbot)



URL: www.DoNotPay.co.uk

SOLUTION(S):

- Parking tickets overturned 160.000 parking tickets
- Flight delays
- Help for homeless people
- Help for renters get landlords to do necessary maintenance
- Immigration applications, asylum and legal support for refugees

How it works (refugee chatbot):

- The chatbot asks a series of questions and uses the responses to determine the right application form and whether the refugee is eligible for asylum protection
- It then requests the necessary info. from the user and auto-fills the appropriate application form
- The chatbot automatically deletes user details when the form is submitted



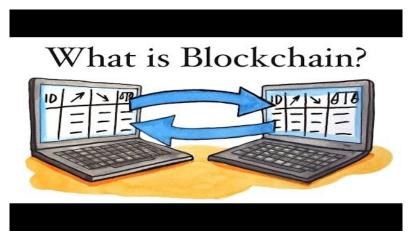
Article:

https://www.theguardian.com/technology/2016/aug/11/chatbot-lawyer-beat-parking-fines-helping-homeless-do-not-pay

Blockchain

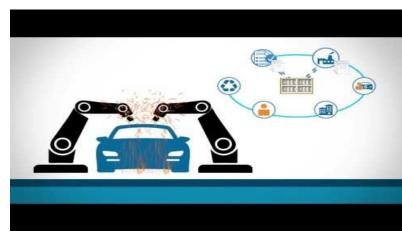


What is a Blockchain



Intro Video:

https://youtu.be/WiRFuHXHBhk



Video about Smart Contracts & Blockchain: https://youtu.be/lgNfoQQ5Reg

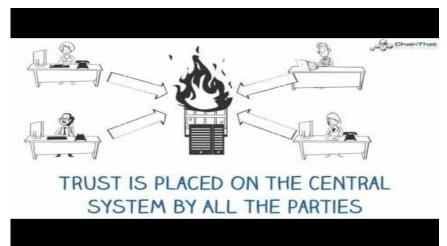
- A **blockchain** is a distributed database that maintains a continuously growing list of ordered records called *blocks*. Each block contains a timestamp and a link to a previous block.
- By design, blockchains are inherently resistant to modification of the data once recorded, the data in a block cannot be altered retroactively.
- Blockchain is "an open, immutable distributed ledger that share transactions between two or more parties efficiently and in a verifiable and permanent way. The ledger itself can also be programmed to trigger transactions automatically." e.g. trigger an automatic payment when a contract has been signed.

Advantage:

• The Blockchain is maintained by a network of computers – i.e. there is no central authority (e.g. a bank) involved – all parties, entities and "products" are verified and acknowledged by the "members" making the system hacker/tamper proof

Source: Wikipedia

What is a Smart Contract



Intro video to Smart Contracts: https://youtu.be/8Dw1nz9t74I

• A Smart contract is basically a computer program – "encoded logic that receives certain inputs and executes a set of instructions to reach one of many pre-defined outcomes... At its heart, a smart contract simply guarantees execution of a particular code base"

October 2016: The world's first shipment of goods supported by a letter of credit using blockchain-based smart contracts and the Internet of Things (IoT):

• The shipment of 88 bales of cotton from the US to China involves a letter of credit executed through a digital smart contract stored on blockchain technology. It has a GPS device tracking its geographic location and funds are expected to be released when the ship reaches its destination.

Example of Smart Contract: DocuSign



INFO:

Partnership w. IBM on Blockchain

TECHNOLOGY:

LOCATION: US

- Blockchain
- eSignature
- Open APIs to other systems

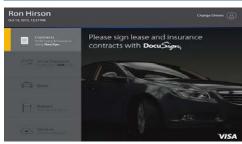
SOLUTION EXAMPLES:

- Advanced workflow mgmt
- Document & contract Mgmt
- Robust authentication, encryption, tamper-seal certificates, chain of custody, non-repudiable audit trail

URL: https://www.docusign.com/

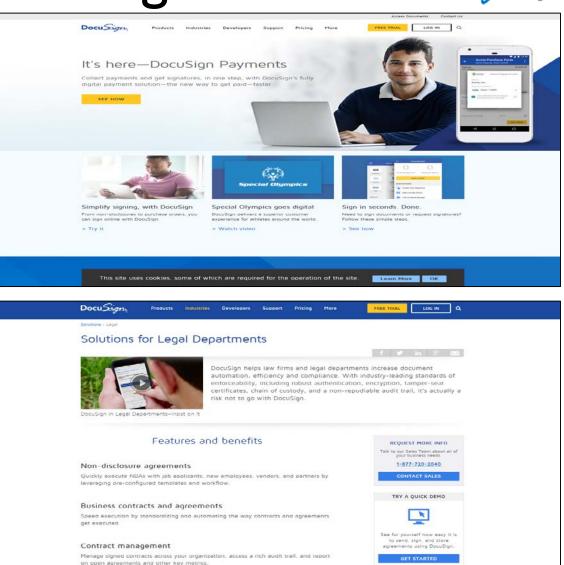
SOLUTION(S):

- DocuSign Digital Transaction Mgmt. empower your internal clients and improve the speed of contract execution
- Securely protect confidential information with enforceability and multiple levels of authentication
- DocuSign Payments sign and pay for virtually anything in a single step
- DocuSign Signature
- DocuSign Transaction Room keep transactions on track with tasks that guide agents through your process



Video: Car leasing using Smart Contracts & Blockchain:

https://youtu.be/2rLNbd6MQXg



Crowdsourcing



What is Crowdsourcing

- Crowdsourcing is a specific sourcing model in which individuals or organizations use contributions from internet users to obtain needed services or ideas
- One of the most well known crowdsourcing platforms worldwide is <u>www.upwork.com</u> Examples in Denmark include <u>www.haandvaerker.dk</u>
- Crowdsourcing in the form of idea competitions or innovation contests provides a way for organizations to learn beyond what their "base of minds" of employees provides

Soure: Wikipedia

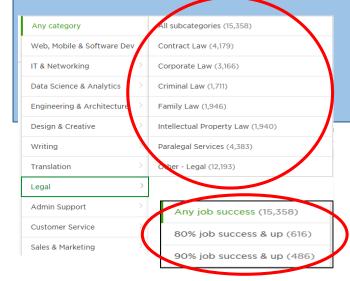
Example of Crowdsourcing: UpWork

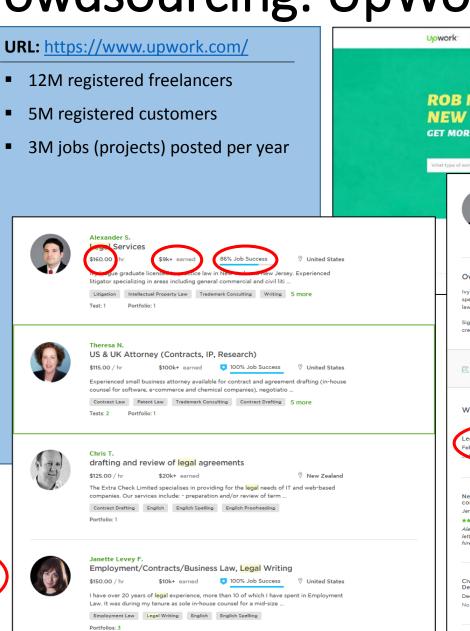


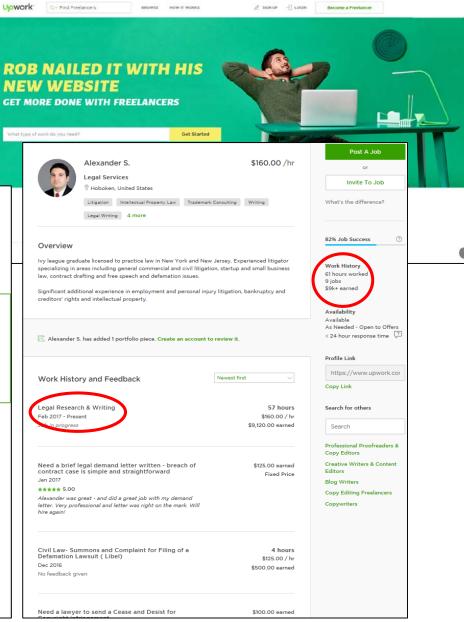
LOCATION: US

INFO:

- Global freelancing platform where businesses and independent professionals connect and collaborate remotely around services needed e.g. legal services, design work, programming,.....
- Charges 5-20% of the service fee (e.g. legal service)
- In June 2016 over USD 1B was billed through the platform







Crowdfunding aka Commercial Litigation Finance



What is Crowdfunding

- **Crowdfunding** is the practice of funding a project or venture by raising monetary contributions from a large number of people
- Examples of the most well known Crowdfunding platforms are <u>www.Kickstarter.com</u> and <u>www.indiegogo.com</u>
- In 2015, it was estimated that worldwide over USD 34B was raised this way
- Crowdfunding is generally based on three types of actors:
 - the project initiator who proposes the idea and/or project to be funded
 - individuals or groups who support the idea
 - a moderating organization (the "platform") that brings the parties together to launch the idea
- Litigation funding, also known as legal financing enables a party to litigate or arbitrate without having to pay for it, whether because they are unable to pay for it or because they do not want to

Soure: Wikipedia

Example of Crowdfunding: Crowdjustice

crowdjustice

LOCATION: UK

INFO:

- Founded 2015 11 employees in London & New York
- Launched by former attorney from Linklaters
- **Donations based Crowdfunding** platform for consumers and companies
- Helps raise funds, gather support and increase public awareness for legal cases
- Cost: 6% to the crowdfunding site and 1,7% + 20 pence for payment processing

Similar Sites:

- Politically agnostic/neutral
- Raised ~USD 2,5M for 150 cases
- ~90% of cases hit funding needs

URL: https://www.crowdjustice.org/

 CrowdJustice does some due. diligence to ensure none of the parties to the lawsuit are subject to any kind of national or international sanctions (such as Securities and Exchange Commission violations, federal or international court matters) and verifies that the case in question is under active litigation by a licensed attorney.





Crowdfunder: http://www.crowdfunder.co.uk/fundraising/legal-cases

Fundediustice: http://fundediustice.com/



Case story (video):

https://youtu.be/IWVA6ReKXAo





Trending cases

Keep my Two Sons in the UK

pledged of £3,500 target by



Mother's Plea to Stay With Son

pledged of £2,939 target by



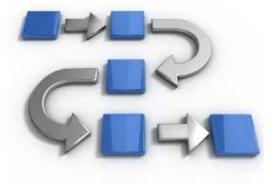


Historic Plymouth Hoe At Risk

pledged of £10,000 stretch target by 77 people



Workflow & Collaboration





What is Workflow Mgmt

- A workflow application is a software application which automates a process or processes.
- The processes are usually business-related but can be any process that requires a series of steps to be automated via software.
- Some steps of the process may require human intervention, such as an approval or the development of custom text, but functions that can be automated should be handled by the application

Soure: Wikipedia

Example of Workflow & Collaboration HighQ



LOCATION: UK

INFO:

- Founded 2001 201 500 employees
- Widely used workflow mgmt. & collaboration solution among legal firms in the Nordics
- Handled 20.000+ transactions through their data room
- Investors: Morgan Stanley, Goldman Sachs and more

FUNCTIONAL AREAS:

- Virtual data room & Due diligence
- Team collaboration
- Project & contract mgmt.
- Document mgmt. & automation
- Internal/external knowledge mgmt

URL: http://highq.com

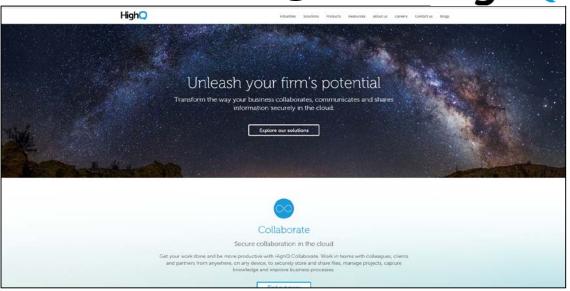
SOLUTION(S):

- **HighQ Collaborate** work in teams with colleagues, clients and partners from anywhere.
- Store and share files, manage projects, capture knowledge and improve business processes
- HighQ Publisher create and manage portals, publish articles, blogs, events, microsites,...
- HighQ Data room manage transactional documents



Intro video:

https://youtu.be/yAmPcX8up6E









Secure file share & sync

Quickly and securely share large or sensitive files with internal and external users anywhere in the world

Engaging client extranets

Create secure workspaces in seconds to collaborate and share information with clients and partners anywhere.

Legal project management

Capture and map your legal processes and manage each phase of every transaction to make it efficient and transparent







Knowledge management

Capture and share knowledge in one platform. Make it easy for colleagues and clients to access expertise

Enterprise social networks

Bring your teams together to share information and collaborate, socialise knowledge and connect people.



Virtual data rooms

Securely exchange information with deal teams and clients on critical transactions with integrated DRM and reporting tools.

Blogging





What is a blog

- A blog is a discussion or informational website consisting of text entries ("posts")
- Blogging (writing posts) can be written by a large numbers of authors and are sometimes professionally edited. Blogs from newspapers, other media outlets, universities, think tanks, advocacy groups and similar institutions account for an increasing quantity of blog traffic.

Soure: Wikipedia

Blogging by lawyers

- Lawyers have historically been reluctant to use blogs or write posts i.e. to share their insights and knowledge with fellow lawyers – e.g. their opinion on a specific court ruling etc.
- However, this is changing in the US it is becoming increasingly popular for lawyers to "blog". Today 60% of law firms w. 500+ employees have their own blog and 81% of the Am Law 200 are using blogs as part of their marketing efforts
- Casetext has built a community w. over 350.000 unique users / lawyers per month
- All blogs and comments are stored on the "Casetext Communities" platform for easy future access
- Top 100 Legal Blog sites: http://blog.feedspot.com/legal law blogs/

Denmark:

- Total number of Social Media users in percent of total number of Internet users: 69,9% (2016).
- This means that ~70% of lawyers use one or more social media tools (Facebook, LinkedIn, Twitter, Messenger, Instagram, blogs,.....)

Frequency - about 88 posts per wee GET EMAIL ALERTS 2 SCOTUS Blog + Follow 266,572 81,817 GET EMAIL ALERTS 3 ABA Journal | The Lawyer's Magazine + Follow About Blog - Get continuous news undates http://blog.feedspot.com/legal law blogs/

Types of Legal Blogs:

123 092

Business Law Blog **Employment Law Blog** Election Law Blog Technology Law Blog Marketing Law Blog Privacy Law Blog Construction Law Blog Personal Injury Law Blog Criminal Law Blog Sports Law Blog Cyber Law Blog Fire Law Blog Entertainment Law Blog Auto Law Blog Copyright Law Blog Trademark Law Blog Fashion Law Blog Environmental Law Blog Broadcast Law Blog

1 Above the Law + Follow



Video on Blogging at Fox Rotschild: https://voutu.be/rO5nICIZvu4

Source: 2016 Legal Technology Survey Report; Lexblog

Example of Blogging Solution: Casetext



LOCATION: US

INFO:

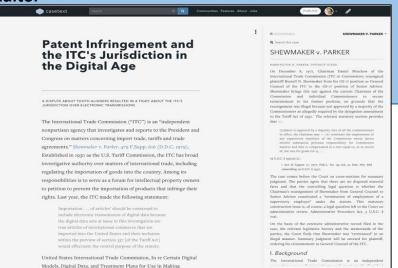
- Founded 2013 11-50 employees
- Tap into the collective expertise of the entire legal community - for free
- Search over 10 million judicial opinions, statutes, and regulations
- Read cases annotated by our community of tens of thousands of lawyers and legal experts

URL://https://casetext.com/communities

- Browse community pages to find all the best commentary in your practice
- Connect with colleagues who are active in the same communities you are
- Start or join conversations about legal topics you're interested in.



Editor



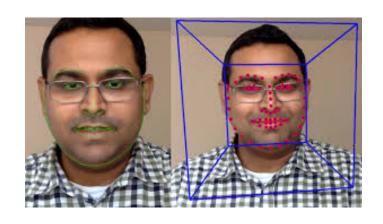
Final document/blog post





Other Technologies

Facial Expression Recognition Forecasting – Legal Fee Estimation





Facial Expression Recognition

Combining camera technology with Artificial Intelligence to recognize facial expressions and identify a persons mood, gaze, etc. – i.e. the persons general state and well-being

"Ellie is a psychologist, and a damned good one at that. Smile in a certain way, and she knows precisely what your smile means. Develop a nervous tic or tension in an eye, and she instantly picks up on it.

She listens to what you say, processes every word, works out the meaning of your pitch, your tone, your posture, everything. She is at the top of her game but, according to a new study, her greatest asset is that she is not human."

Now take this solution to the court room to verify if the person in the witness stand tells the truth! This may not be operational today – but will likely be possible soon



How facial recognition caught a 40-year fugitive. Video: https://www.youtube.com/watch?v=E68PmIE2-YE

Data point:

A researcher at Cambridge University has collected 12 Billion facial expressions (facial data points) from people all over the world!

To be used for Facial Recognition Software

Meet Ellie – the AI Psychologist





Video Simsensei / Multisense: https://youtu.be/I2aBJ6LjzMw

Legal Fee Estimation Example: Forecast.it 2 Forecast.it



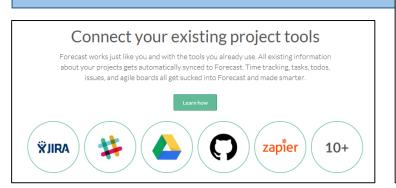
LOCATION: Denmark URL: http://forecast.it

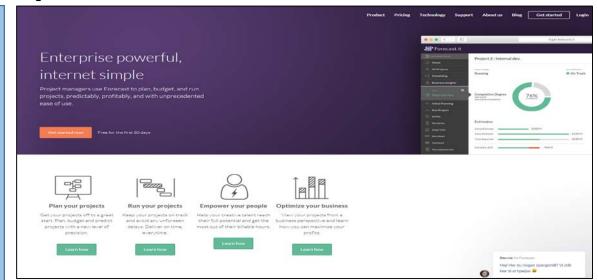
INFO:

- Founded 2016 11 50 employees
- Create predictability in pricing
- Forecast.it use AI and Machine Learning to constantly improve the quality of your estimates
- Combines anonymized data from 5.000+ projects to help you improve your estimation
- As the project develops and tasks get more specific, the system is simultaneously updated with more data. Since the machine is constantly learning how your team works, Forecast.it helps you update your project estimates.
- Using Forecast.it, companies are now planning projects with 94% accuracy!

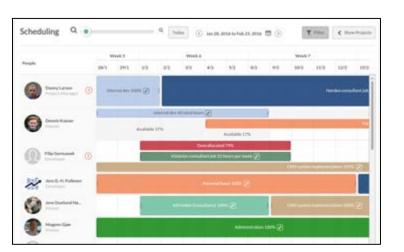
TECHNOLOGY:

- Web based estimation platform
- AI & Machine Learning









Access To Justice (A2J)





Definition and solutions to be offered

Classical:

• Access to getting cases solved at the court – traditional discussion about costs, legal expenses insurances (retshjælpsforsikring), free process

Extended:

• The accessibility of qualified legal advice – the appreciation of legal contexts

Economy:

- Focus is "Access to Justice" what it means to assert a persons rights / make a persons rights applicable
 - As an example, in public proceedings, in order to get your "right" / get your way you either have to have legal help or be able to understand legal contexts on your own

Solutions:

- Increase the access to and availability of knowledge for free on the internet
 - Today a lot of communication is based on a transcript of the law which is too hard to interpret for most people as they don't have the prerequisites to read / understand the legal texts
 - Accessibility via animations, videos, pictures, chatbots, etc.

Example of Solutions for Pro Bono Work

Probono.net – Platform for the Pro Bono lawyer

- Contains tools, templates, guidance, training etc. for lawyers providing pro bono work
- Ensures access to consistent and relevant quality guidance across the country
- Provides an overview of the (governmental) places to seek information about rights, obligations, etc.

LawHelp.org + Civil Resolution Tribunal – Platform for Low Income clients

- Provides help, templates, guidance + an online tribunal tool
- Focus: civil legal issues e.g. small claims disputes about contracts, debts, personal injury, personal property, etc.
- Chatbox functionality w. real lawyers working pro bono



Video – LawHelp: https://youtu.be/jlt9dbrJ5hY



Video – Probono.net: https://youtu.be/xYf1ZquX9cU

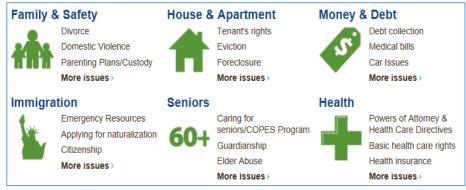


Video – Civil Resolution Explorer: https://youtu.be/-wbmqjVjXxw



Video – Free Legal Answers: https://youtu.be/1DQzZkTcl_M

Areas of assistance:





http://www.lawhelp.org/



https://www.probono.net/

Example of A2J Incubator: HiiL



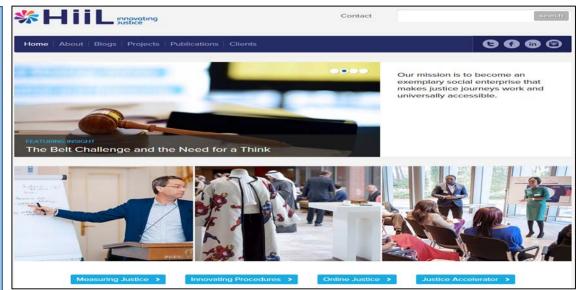
LOCATION: NL

URL: http://www.hiil.org/

INFO:

- Founded in 2005 11 50 employees The Hague Institute for Innovation of Law (HiiL)
- Not-for-profit institution focusing on global Access To Justice (ATJ)
- Partnering with NGOs, governments and legal entrepreneurs to improve rulemaking and conflict resolution processes
- Operates in 11 countries: Nigeria, Kenya, Uganda, Jordan, Tunisia, Lebanon, Mali, Bulgaria, Ukraine, The Netherlands, and the United Arabic Emirates

- "Justice Entrepreneurship School" in The Hague
- "Innovating Justice Challenge" Accelerator Program
- Access To Justice Startup areas:
 - Human Rights (24%)
 - Corruption and Transparency (22%)
 - Employment and SMEs (18%)
 - Dispute Resolutions (13%)
 - Family & Children (11%)
 - Security (5%)



Vision: Provide ATJ to 20M people in 2020 $\,$

Middle-East: 10 West Europe: 77 West Asia: 20 East Asia: 17 Full Lagor Full Maireb North America: 02 North America: 02 Full Lagor Full Lagor Full Maireb North Africa: 30 East Africa: 46 Central Africa: 20 Central Africa: 20 Countries Oceania: 3



Innovating Justice Challenge 2017 – Accelerator Program

Finalists

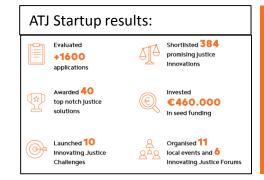
Semi-finalists

MUST READ:

ATJ / Accelerator Program Presentation

100-120

http://www.hiil.org/data/sitemanagement/media/HJA%20Impact%20Report.pdf



Justice Accelerator's social return on investment

For every 3 euro we spent. 1 person got access to justice

Every 1 euro we spent unlocked another 6 euros of investment in justice

Every 1000 euro we spent created 1 job and an average of 3 livelihoods

Examples of Justice as a Service – JaaS

Typically "no cure – no pay"





https://www.weclaim.com/en-GB (6 lande)



Https://www.airhelp.com



https://www.flyforsinkelse.dk



<u>https://71lbs.com/</u> - Claims against UPS & Fedex



https://billfixers.com/ - Renegotiate bills from Telecom providers



https://paribus.co/ - Refunds from stores



https://www.fixedlaw.com/ - Traffic Tickets
Acquired by Lawgix:
http://www.lawgixlaw.com/