The Justice League

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Project Description

While many sectors of social affairs (health, finance, education) have benefited significantly from breakthroughs in innovative technologies, the legal profession has consistently lagged behind its counterparts. Open access to justice is one of the great shortcomings of our judicial system. People facing legal disputes often become disheartened due to a multitude of factors including (1) costs and complexity of judicial procedures, (2) delays to reach trial, (3) lack of knowledge of individual rights of actions and, finally, (4) overall scepticism towards the efficiency of the justice system.

The goal of our CAPSTONE project is to enhance access to justice through an artificial intelligence tool capable of assessing the validity of a litigant's claim and proposing possible avenues for resolution. The tool will be confined, for the time being, to a single domain of law.

The outputs may be in the form of an assessment of the validity of the claim (eg. past statute of limitations), the remedies available (eg. nullifying the contract, refund, damages), the quantum of damages (eg. a fork or a curve or an average of sums recovered), evidence required to support the claim, typical legal and court fees, procedural delays, and different avenues for resolution (ex. ODR, private mediation, sending demand letters, retaining legal counsel).

This project is designed to be as modular as possible. Our team is interested in working in subgroups in these possible project divisions:

User Interfaces

The AI-powered bot will communicate to the users through a web-based chat interface with possibilities of expanding to voice-enabled input or other user interactions.

Optical Character Recognition

OCR will be used for feature extraction from documents related to the user's case. Examples include warranties, receipts, contracts and documents pertinent to the case.

Natural Language Processing

This AI bot will intelligently interrogate users and determine the fact patterns applicable to the legal dispute. All inputs to our bot will need to be parsed and tokenized with a NLP algorithm to gather insight from the conversations and documents provided by the user. NLP techniques will also need to be applied on our machine learning training data.

Machine Learning for Legal Domain

For our project, we will need to obtain, scrub and parse legal data from previous proceedings. From this, we will generate a model which will take cost, outcome, and a variety of others facts to predict the likeliest outcomes of the current situation and provide legal recourses to the user. This is an attempt to model the legal reasoning employed by judges and tribunal adjudicators to arrive to a decision.

Competition

Search terms used: law chatbot, civil code quebec data, legal AI Montreal

Wevorce (https://www.wevorce.com) - Automatized divorce deep learning algorithm program which attempts to predict how the divorce will proceed and then provides further services according to the prediction. By contrast, our product will be more general in scope, offering legal consult for disputes across a wide range of legal domains. Additionally, Wevorce is not a chatbot; rather, users must fill a sequence of forms and questionnaires, thus presenting a significantly flexible interface to its users.

Botler AI (http://botler.ai) - AI chatbot providing free legal advice for potential immigrants to Canada, with the goal of easing the immigration process for foreigners who are likely unfamiliar with the details of our legal system. Again, our product distinguishes itself by its generality, as well as its ability to process legal documents.

Docubot (http://aux.ai/) - A legal document generation service with an AI backed chatbot component. Aids customers in the creation of legal documents without having to directly consult a lawyer. Documents include wills, residential leases, and sublease agreements, and power of attorney documents among others. However, Docubot does not provide any form of legal consultation in contrast to our product.

Description of Customer and Company

The Montreal Cyberjustice Laboratory (http://www.cyberjustice.ca/en/) is a leading global research initiative in the field of technological innovation for justice. It relies on an international multidisciplinary team of 36 researchers and a unique research facility that includes a cutting edge courtroom and an IT centre. Benefiting mostly from public funding, this research infrastructure anchors itself to two of the largest research institutions in Quebec: the Université de Montréal and McGill University. It also consolidates within a broad network the majority of key stakeholders active in the legal landscape, be it departments of justice, courts, bar associations, professional orders and representatives of civil society.

The Laboratory is a space for the study and development of information and communication technologies that can improve dispute resolution processes, whether judicial or extrajudicial; it is a hub for thought and creativity, where justice processes are modeled and re-imagined.

The primary mission of the Montreal Cyberjustice Laboratory is to improve access to justice through the networking of all stakeholders of the legal industry.

The rule of law loses ground when justice costs and delays deprive stakeholders of concrete means of resolving their disputes. Despite this danger, many justice systems worldwide are still struggling with harnessing the full potential of technological progress to improve accessibility and optimize procedures.

The Laboratory research team seeks to gain a better understanding of the socio-legal obstacles to networking stakeholders of the world of justice, and tries to find very concrete remedies through the development of a new generation of software applications that are adapted to the needs of judicial stakeholders. The ultimate purpose of our work is to optimize the traditional legal process so as to improve its efficiency, reduce costs and delays, and simplify mechanisms.

The Laboratory has its sights set on the use of artificial intelligence and the analysis of Big Data for improved management and customization of judicial systems and processes. The future of justice depends on mastery and use of these technological advances. The development of new procedural models that automate decision making in order to provide relief for justice systems, improve access to justice and reduce costs and delays for all stakeholders will be key in the coming years. Without replacing the human element in the provision of judicial services, such developments would help achieve economies of scale for cases that could be settled without requiring the intervention of decision makers.