Abstract

Development of a web application for the analysis of defendant eligibility for release or remand prior to trial. Underlying objective of the software is to ensure the safe release of as many defendants as possible, while minimizing the risk of released defendants fleeing or continuing to be a danger to society. Software was developed using OutSystems, a low-code, visual integrated development environment for desktop and mobile web applications. The software was developed following the Virginia model, also known as the Virginia Pretrial Risk Assessment Instrument (VPRAI), which asks a series of questions. Questions are assigned a point score based on answers, with higher scores representing higher risks of a released inmate failing to appear for trial or causing further harm.

Architecture

The software uses a 5-screen system with linear progression, from beginning to end; in OutSystems, screens unify a user interface and related processes that run on the screen. A home screen displays defendants that are awaiting processing, or have been processed. This optionally leads into the arrest screen, used for input of new inmate information, but can be skipped if information for an individual is already loaded into the system. The assessment screen following presents a questionnaire to gather information on the defendant. Next is a review screen that calculates the risk score / level, and allows final comments to be added before finalizing a submission. The decision screen finalizes the assessment and presents an organized report. Underneath the screens is a database system, with a master inmate table tracking identifying information of an inmate. Tied to the inmate table by one-to-one relationships are assessment and review tables, which track assessment question information, and the inmate risk calculations / recommendations, respectively.

Impact

Little software made by third-party vendors exists in the realm of pretrial assessment. The release of this product will allow industry sponsor Tyler Technologies to lay down a framework that can be tailored to individual client needs, propagating pretrial assessment software into local municipality and state level courthouses, where previously such assessment was either done by hand or by in-house software.

The software itself will aid in the process of a pretrial assessment, making it faster, and speeding the release of defendants awaiting trial into the public, or the remand of high-risk individuals until a trial can be held. The web application also has a mild, ethical impact; by automating the assessment process the potential influences of the biases of assessors can be reduced or eliminated. Decisions are made on a strict set of criteria that are handled by the software, and less by court staff.

Summary

The end result of this project was the development of a piece of software that is intended to be expanded upon in future development. Individual uses will require customization of the software to meet the individual client needs. Our team has learned how to work in when presented with a new, foreign software tool, in this case the OutSystems development environment. The team was able to gather requirements, both from industry sponsors such as Tyler Technologies, and from documentation such as the VPRAI and other legal documents.

The software presents an organized, automated approach to a real-world problem, the analysis of inmates and defendants that are about to stand trial, in order to produce a recommendation of release or remand based on their history. Those individuals who deserve to be allowed free, to return to their homes, families, and jobs, can be kept from any unnecessary delay through use of pretrial assessment software.