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**Required Skills:**

(List skills needed) – Java, Mobile App, Web Development, Stand Alone App Development, Responsive Web Design, Human Centered Design, Workflow/Process Optimization, Project Management, Communications

**Preferred Team Communications:**

WEBEX, Skype or Conference call

**Data Sources:**

Data will be provided for the project.

**Other Items:**

Project has timezone flexibility. Mentors and students will determine a good time for virtual meeting

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FHIR-BASED PHYSICIAN DASHBOARD FOR OPIOID PAIN MANAGEMENT

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As a consequence of the opioid epidemic, there is an urgent need for better informational support for physicians to manage opioid prescriptions. At the moment, physicians must collect and interpret information from multiple sources in order to make clinical decisions regarding pain management. Since most of the physicians workflow happens in the electronic health record (EHR), a FHIR-based app to support this clinical activity would be highly beneficial. The app could integrate patient-specific information with other data to support physicians with a one-stop dashboard to help make them optimal patient-specific decisions regarding opioids.

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PROJECT OBJECTIVES

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The objective of this project is to develop a FHIR-based app for implementation in Cerner with the following approximate functionality: (1) retrieve and intelligently display information relevant to opioids for a patient in the EHR, such as pain-controlling prescriptions, including opioids; clinical procedures for which pain is typically managed using opioids; opioid-related healthcare encounters, such as ED admissions for overdose; and results of toxicology tests that are relevant to opioid therapy; (2) integrate other data, such as comparative prescription patterns with peer physicians or state prescription guidelines; and (3) possibly integrate a patient-specific score for addiction risk. Since the Regenstrief Institute has developed a FHIR interface to the Indiana Network for Patient Care (INPC), Indiana's major repository for patient information, development of the app should leverage data in this resource.

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SUCCESSFUL PROJECT

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A successful project should have the following characteristics: (1) app designed and implemented using a state-of-the-art user centered design process, such as described by Beyer and Holtzblatt; (2) app validated with targeted end users using one or more HCI methods, such as usability testing; (3) production-ready prototype that can be implemented by the Regenstrief Institute/Indiana Health Information Exchange with limited engineering effort; (4)

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**Intellectual Property:** Project involves a government agency so the resulting project is made available to the public. Students do not own IP. Students will be recognized as contributors

solid software architecture and design with adequate technical and end-user documentation. An evaluation of this app in a routine practical setting is NOT within the scope of this project.

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