EXECUTIVE SUMMARY

The Electronic Pre-Operative Anesthetic Plan (EPAP) is a native mobile application prototype for the Android and iOS platforms. This application will be designed to increase efficiencies between anesthesia healthcare professionals, technicians and pharmacists in an operating room (OR) setting.

The EPAP application enables anesthesia professionals to create and communicate an anesthetic plan consisting of limited relevant patient data, operation procedural details, medication, and equipment. This plan will enable credentialed anesthesiologists to review the plan, designated pharmacists to fill requested medications earlier, and designated technicians to prepare the operating room with the necessary materials and equipment.

The system will produce benefits including reductions of procedure delays due to unavailable medications or materials, reduction of medication and material waste, and increased efficiency in the provisioning of high-demand equipment.

The core team progressed through the first three phases of the project, including initiation, planning, and design during the first semester. With the guidance of the project sponsors, the team created a thorough list of requirements for the mobile application, concisely summarized above. Subsequently, the project charter collected these requirements and outlined the vision, project scope, assumptions, risks, and management plans. The team defined the project plan, use cases, and the proposed technology stack for development during the planning phase. Prototypes and a thorough data model with relevant information and connections were made during the design phase.

The team utilized the time between semesters to review a self-designed curriculum intended to acquaint the members with the technologies and programming languages to be used in the coding phase, including JavaScript and React Native.

Implementation began at the beginning of the second semester, which involved setting up application development through GitHub and Atom. Development itself was organized into eight phases, which each focused on different core functionality of the app. Back-end development was handled through Kumulos, a service which contained the database and facilitated the relevant API calls. The final application as developed by the team includes functionality to create new and manage existing users, login, add/edit/delete equipment, drugs, and plans themselves, and message other users with comments and concerns. Simultaneous testing was also conducted during the duration of development and documentation was also created. Full handover is expected to occur at the end of the semester, in May 2018.