

IS480 Project Proposal

AlphaHealth

Team Alpha
Version 6.0
22 October 2017

Team Members:

- Chai Hui Yee (huiyee.chai.2015@sis.smu.edu.sg) – Project Manager
- Lim Wai Liang Aloysius (alloysiuslim.2015@sis.smu.edu.sg) – Lead Developer
- Tan Jun Ming (jmtan.2015@sis.smu.edu.sg) – Front End Developer
- Koh Hong Ye (hongye.koh.2015@sis.smu.edu.sg) – Back End Developer
- Carine Ng Hui Li (carine.ng.2015@sis.smu.edu.sg) – UI/UX
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Faculty Supervisor:

SMU-TCS iCity Lab

- Dr. Tan Hwee Xian (hxtan@smu.edu.sg) - Senior Research Scientist

Sponsor:

SMU-TCS iCity Lab

- Dr. Tan Hwee Pink (hptan@smu.edu.sg) - Academic Director

Client:

Singapore General Hospital
Urology Department

- Dr. Henry Ho Sun Sien (henry.ho.s.s@singhealth.com.sg) - Head of Urology Department, SGH

Project Overview

1.1 Project Description:

Firstly, AlphaHealth aims to digitalize International Prostate Symptom Score (IPSS), Visual-Aided Uroflowmetry Survey (VAUS) and uroflowmetry paper results through an iPad solution. IPSS consists of 8 questions which can be used to track, screen and diagnose Benign Prostatic Hyperplasia (BPH) while VAUS is a scoring system to determine the severity of the symptoms faced by patients with BPH. The nurses will pass the iPads containing the digitalized IPSS and VAUS to the patients for them to fill in. AlphaHealth will also correlate IPSS, VAUS and uroflowmetry data to perform predictive analysis, providing timely advice regarding patients' current urological condition. The second aim is to consolidate historical urology records across Singapore Hospitals and Polyclinics into a platform for doctors. This comprehensive and integrated platform aims to allow for seamless sharing, analysis and evaluations of patients' urological condition, primarily older-age male (55-80), in which urinary symptoms are prone to surface.

1.2 Motivation:

For patients with BPH, hospitals remain as the only source of medical evaluation. However, for patients who are recovering well or have non-severe cases, a lengthy trip to the hospital could have been replaced by polyclinic or general practitioner (GP) consultations instead. Hospitals should only be suggested to those with severe urological problems. As preliminary research by the doctors at SGH has validated VAUS against IPSS and the uroflowmetry results, IPSS and VAUS can help to provide appropriate medical instructions so that patients can receive proper suggestions as to where to seek medical consultations based on the severity of their condition. Our target users are elderly male, therefore it is important to take note of the usability of our mobile application when we digitalize the IPSS and the visual-based VAUS so that we can make it simplified and easy-to-use for the elderly male patients.

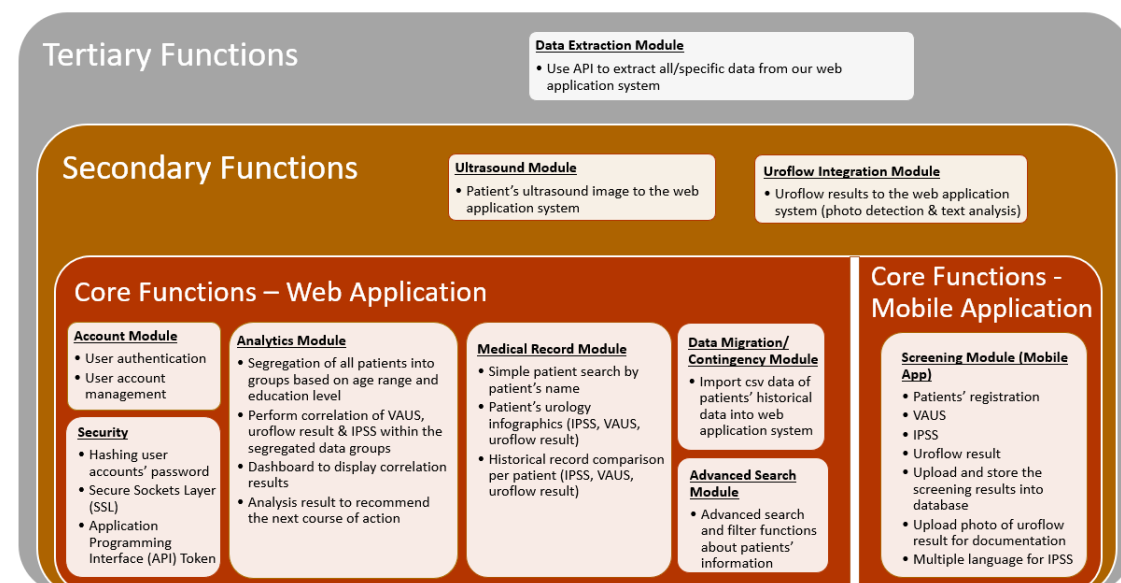
1.3 Stakeholders:

Sponsor	Dr. Tan Hwee Pink (Academic Director) at SMU-TCS iCity Lab
Users	For mobile application: <ol style="list-style-type: none">1. Elderly male patients with BPH2. Nurses at Department of Urology at SGH For web application: <ol style="list-style-type: none">1. Doctors at Department of Urology at SGH
Client	Dr. Henry Ho Sun Sien at Head of Urology Department at SGH

1.4 Deliverables:

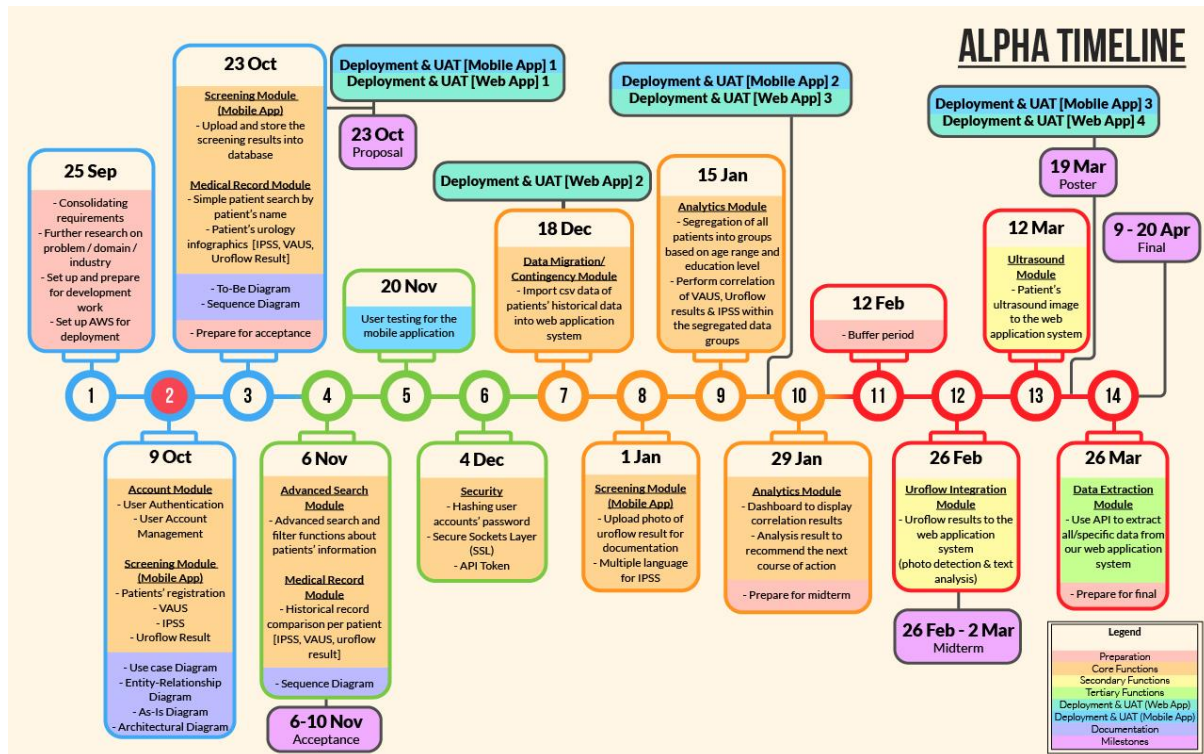
Firstly, the client will receive a mobile application which the elderly male patients can use to facilitate the filling up of IPSS and VAUS. Secondly, the client will receive a fully functional web application. The data from the mobile application will be fed into the web application in which the doctor will use to view and analyse patients' information.

1.5 Scope:



Project Plan

- Project milestone:



- Risks:

Risk Type	Description	Likelihood	Impact	Mitigation Plans
Technical (Framework/ Libraries)	Unfamiliarity with technologies like React-native elements, Material UI and React-bootstrap	High	Medium	Time will be set aside and allocated for the team to learn and familiarize with the various technology. Discussion space will be initiated to enhance learning.
Scope (Functional and non-functional)	The inevitable occurrence of scope creep where additional requirements may be added in at the later stage.	Medium	Medium	Project Manager will regularly review the scope with the sponsor to ensure that it is correct and manageable.
Non-Technical	The elderly might have difficulty understanding the interface of the questionnaires in the iPad. They might not be able to see the words on the interface clearly too.	High	High	The team will dedicate time for the heuristic evaluation of the mobile app interface. This will be done by making trips to the hospital for our target audiences (the elderly) to experiment on the mobile app interface.

- Resource and reference:

Application Development	Java, JavaScript, Visual Studio Code, NetBeans
Graphical Design	Adobe Photoshop, Illustrator, PowerPoint, Axure
Framework/Libraries	React-native elements, Material UI, React-bootstrap