Wireless Operating Theatre Report (7/6/2016)

Present:

1. Dr. Colin Iatrou
2. Jia Hui Ong
3. Jiayi Chen
4. William Ngeow

**Summary of Meeting on 7/6/2016:**

1. Progress Report – Electronics

* Libelium (using Waspmote transmitter and receiver) is a possible pathway to achieve wireless transmission, however, it uses Zigbee and does not provide visualisation capabilities
* Raspberry Pi Model 3 will be used for prototyping next (uses WiFi)

1. Progress Report – Data Prioritisation

* Client-Server Model using Java for Data Prioritisation
* Random data generated and noisy channel simulated to test model
* Model is working and ready to be implemented on hardware platform after decision is made

1. Visualisation Specifications

* Stacked waveform readings desirable
* 5 readings in order of priority (specified below)
* With digital output on the right (numbers)

1. Refresh rate – Higher for pulse oximetry, lower for blood pressure
2. Literature reviews
3. Interference caused by diathermy and X-ray

* Suggestion was made to see if we could access a diathermy in the Medical Building of the university for interference testing – KIV for testing stage after prototype is produced
* Empirical data can be collected during testing for proving statistical correlations

1. Australian Standards – desirable but difficult to meet during this early stage of development
2. User Interface of Monitoring System

* Menus
* Buttons – for selecting waveform or opening new window
* Wheels or knobs
* Provide adjustment for amplitude, alarm limits, change fields (from ECG to PO)

1. Screen

* iPad Screen – size too small but provides touchscreen facilities
* Slave monitors available in the theatre – HDMI is a possible interface

**Priority:**

1. Pulse Oximetry
2. ECG
3. Pressure
4. EEG
5. Temperature

**Next Scheduled Meeting:**

July 2016

**KIV:**

Sensors have still not yet arrived – person in charge of ordering devices to be contacted again ASAP