Wireless Operating Theatre Report (7/6/2016)

Present:

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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)
2. 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
3. Visualisation Specifications
    - Stacked waveform readings desirable
    - 5 readings in order of priority (specified below)
    - With digital output on the right (numbers)
4. Refresh rate – Higher for pulse oximetry, lower for blood pressure
5. Literature reviews
6. 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
7. Australian Standards – desirable but difficult to meet during this early stage of development
8. 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)
9. 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