Senior Design Update

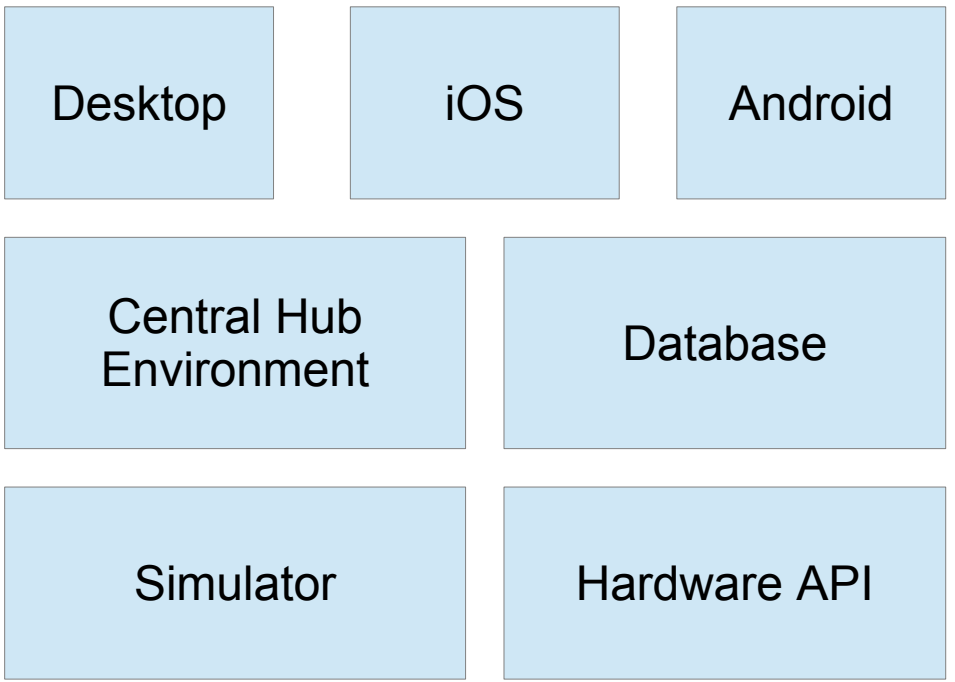
Next Steps

- Top-level regression test that runs whenever someone attempts to push to Github
- Generating Doxygen documentation
- Run hardware tests to determine and verify FSM parameters
- Begin experimenting with and understanding DW1000 capabilities
- Continue research into different applications and implementations

Software Proposal

- The technology can be used for a variety of applications
- Rather than focusing efforts on developing a specially-tailored app, a framework for developing cross-platform applications using this system should be developed instead
- The store-customer example would simply be a special case of and fairly trivial to make with this framework.
- We may also want software utilities that allow us to easily test hardware against simulator results

Software Proposal (cont'd)



This layer provides utilities for developing applications on various platforms. The UI elements can grab position and map information from the layer below.

This layer in the software stack keeps track of the device positions and stores them in a database. The data is received from the layer below, abstracting the hardware/simulator source.

At the lowest level in the software stack, the simulated devices or the actual hardware can be used to provide data to higher layers on the stack.

Software Proposal (cont'd)

- Python is a poor language for object-oriented development
- C++ has much better objected-oriented programming support
- On top of that, C++ can be used to develop applications that run on a desktop computer, iOS, or Android
- Since many embedded systems have C/C++ compilers, it may be easier to interact with hardware code as well
- The current, documented simulator could be translated to C++ and potentially refined

Hardware Plans

- The main problem with the current hardware is cost
- The secondary problem may turn out to be short battery life
- More custom hardware can be implemented using a PSoC from Cypress Semiconductor or other products which contain programmable analog and digital blocks
- Iteration 2 of the hardware design should contain a chip like this and must be at a much lower cost than the DW1000

Administrative Updates

- Bagherzadeh has agreed to be our advisor
- We'll need to register our senior design project soon
- Need to request UROP funding
- Need to designate team captain