Development of an Indoor Positioning System

Status: Available

- Indoor positioning accuracy of about 1m
- Automatic detection of the most suitable signal source when exposed to multiple light sources
- Compliance with IEEE 802.15.7 on transmission speeds and protocols of visual light
- communications including a minimum bandwidth of 11.67kbit/s
- An increased broadcasting speed to 128kbit/s for audio streaming is desired but not required

Deliverables:

- Electronic circuits for modulating the data stream into LED pulses and processing the received
- signal from photodiodes
- USB or Bluetooth transfer between receiver device and Android Tablet.
- Software for processing data from multiple sensors
- Graphical user interface (Android App).
- Sturdy housing to package prototype inside for mobile use

Required Skills:

- Experience with circuits/electronics including analog and digital signal processing
- Strong programming background and experience with firmware/software
- Interest in creating a market ready product

PLEASE CONTACT Doug Chan, dac9@sfu.ca, if you are interested in this project.

This project requires the team members to enroll in the Entrepreneurship@SFU program and associated course(s) to receive full funding.
For more information about the program see http://entrepreneurship.sfu.ca/