**Automotive UI**

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# Declaration of Joint Authorship

We, Cedric Wambe, Asmaa Alzoubi and Akeem Abrahams, confirm that this work submitted is the joint work of our group and is expressed in our own words. Any uses made within it of the works of any other author, in any form (ideas, equations, figures, texts, tables, programs), are properly acknowledged at the point of use. A list of the references used will be included. The work breakdown is as follows: Each of us provided functioning, documented hardware for a sensor or effector. Cedric Wmabe provided AMG8833 IR Grid Eye Thermal Camera. Asmaa Alzoubi provided VMA340 Heart/Pulse Rate. Akeem Abrahams provided MAX30100 Pulse Oximetry. In the integration effort Akeem Abrahams is the lead for further development of our mobile application, Cedric Wambe is the lead for the Hardware, and Asmaa Alzoubi is the lead for connecting the two via the Database.

# Project proposal

Automotive UI is a conceptual project that has been developed by some faculty staff and students at Humber College. The idea behind this project is to bring a more lively and interactive conversation between the paramedic and the patient or the person calling on behave of the patient in case of any incident. The normal traditional way in which incidents are being reported to the paramedic is through voice call which some times there maybe miscommunication due to poor network connection or interference. However, this new system will permit the paramedic to have first hand information by actually seeing the state in which the victim is in and what is happening on the scene. This will help the paramedic to be more prepared and ready when they get to the scene as they already have and idea of what is happening. Also, this can safe life as the paramedic can give instruction and direction on what to do prior to their arriver on the scene. In this regard, it was thoughtful for them to have a more convenient and reliable tool to accomplish all these tasks. Which is why my teammates and I decided to take part on this project to make it a reality by delivering a more practical and reliable App and prototype device to collect the data.

The app will be implemented for both the user and the paramedic. On the paramedic side, the app will be displayed on the screen in the ambulance and once they get on duty they will be prompted to login. On successful login, the paramedic will be able to receive calls and will be able to see the list of tasks completed and those in progress or pending completion. Meanwhile, on the patient side they will be able to request a call in case of any incidence. They will also be able to update their personal information.

On the other hand, the hardware will be incorporated with a number of sensors; notably MAX30100 Pulse Oximetry sensor to measure the blood oxygen and heart rate of the patient, GPS used to access the location of the patient and the AMG8833 IR Grid Eye Thermal Camera sensor to visual determine which part of the body is affected. The hardware will be able to collect this information about the patient and safely transfer them to the database for storage.

The project is expected to take about 3 month and will be delivered a week earlier than the due date. In case of any problem, the issue will be examined and taken care of as soon as possible. Also, extra time and effort will be put in place for the success full completion of the project. The extra one week is reserved for such unforeseen events.

Our project description/specifications will be reviewed by, Dennis Kappen, ideally an employer in a position to potentially hire once we graduate. They will also ideally attend the ICT Capstone Expo to see the outcome and be eligible to apply for NSERC funded extension projects. This typically means that they are from a Canadian company that has revenue generating for a minimum of two years, and have a minimum of two full time employees.

To conclude, this project is a great solution which will go a long way in helping the population in serving both time and life by providing them with a quicker, faster and reliable system for the patient or reporter of the situation to easily communicate with the paramedic.

# Executive Summary

This project will provide a ready to use prototype device which will work in conjunction with a software application; the combination of the two will provide a more easier, faster and reliable means for paramedics to respond to emergency calls and also for the patients to have a device which will efficiently help in conveying first hand information to the paramedic. Life is so precious and should be protected.