School of Computing  
CA326 Year 3 Project Proposal Form

**SECTION A**

Project Title \_\_\_\_\_\_\_Anxiety App\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student 1 Name \_Nigel Brennan\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ID Number \_14716325\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student 2 Name \_Ikenna Ejike\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ID Number \_\_\_\_\_\_\_\_14383451\_\_\_\_\_\_\_\_\_\_\_\_

Student 3 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ID Number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(A third team member is exceptional and requires detailed justification.)*

Staff Member Consulted \_\_\_Mark Roantree\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Project Description (1-2 pages):

**Description:**

We are developing a mobile phone app that works with wearable sensors to detect the physiological symptoms of anxiety attacks. The app will notify the user through prompts and then graphs the data and shares it with a therapist. We will encrypt the data and share it on the cloud so both users can access it. The sensor will be a respiration and heart rate monitoring sensor. These two combined have been proven to be the most effective in detecting physiological changes. Other sensors will be included like accelerometer, gyroscope etc. The user will receive prompts with advice and graphics to help them relax and calm down. These suggestions will be dependent on factors like time and location of the user. then our app will graph all the data, the frequency of anxiety attacks and all the data around it such as location of user during the attack, time, date, whether they were in public or at home, which will then be shared with the user and his/her therapist. This will help the user and therapist identify the triggers of the anxiety. The Therapist will use the app to track the frequency of anxiety attacks and determine whether the user’s mental health is improving or deteriorating and to see if the therapy is working. We have done a lot of medical research for this project and have met with psychologists to discuss it. The physiological aspects of the disorder have been largely ignored and thanks to improvements in sensor technology we can make an app that is efficient and very useful to a person with anxiety.

**Programming languages:**

* Java
* Python
* mySql
* R

**Programming tools:**

* Android studio
* Sensor api
* Gmc – google cloud messaging
* Restful api
* Cloud computing platform

**Learning challenges:**

* Learning to work with sensors.
* Learning to make an app
* Writing algorithms
* Learning encryption
* Learning cloud computing
* Learning to create our own database and query it
* Using R for probability of sensor input.

**Hardware/software:**

* PC
* Linux
* Android studios
* Pycharm
* R
* Eclipse
* Git

**Special hardware/software requirements:**

* The sensor.
* An android mobile phone.