School of Computing
CA326 Year 3 Project Proposal Form

SECTION A

Project Title: LifeLens: Data Visualisation for Chronic Illness Prevention
Student 1 Name: Michael Regan ID Number: 22112111
Staff Member Consulted: Liting Zhou

Description

The project is a web application that visualises and extracts meaningful insights from lifelog datasets. The application will offer an interface for users to create an account for the purpose of visualising their own lifelog data. I will be using a publicly available lifelog dataset that has data on 30 people for demonstrative purposes.

This project is important because people's daily activities can be linked to chronic illnesses. The web app will visualise the data with graphs that are easily readable by the user. The system will also be capable of analysing the dataset and making suggestions for the user's future daily activities based on the current risk to their health. The system will include a 'prompt' feature where users can discuss their data with a chatbot. These chats can involve topics such as healthier sleep schedules.

Given that Lifelog data is very sensitive, security will be a priority on the app. The backend will be handled by Django web framework whilst the frontend will be developed using React.js.

UX/UI design is also at the forefront of this project. The key feature of this app is to turn raw data into a clear comprehensible form for users to understand their health patterns so the app will be designed towards accessibility.

Division of Work

This will be a solo project because my partner has decided to defer the year.

Programming language(s)

Python and Javascript

Programming tool(s)

The front end of the web application will be developed using react.js. The backend will be programmed using the Python framework Django. Data visualisation will be implemented using the javascript library D3.js.

Learning Challenges

Lifelog data visualization and analysis

Hardware/software platform

All development will be done on personal computers and lab machines

Special hardware/software requirements

For this project, I will be using the publicly available dataset, "ETRI_Lifelog_Dataset_2020", https://nanum.etri.re.kr/share/schung/ETRILifelogDataset2020?lang=En_us. The prompt feature may be implemented using a text generator API such as openAI's chatgpt.