GRADUATE CERTIFICATE: Intelligent Reasoning Systems (IRS)
PRACTICE MODULE: Project Proposal

Date of proposal:

28 Feb 2022

Project Title:

ISS Project – Diabetes-Health-App

Group ID (As Enrolled in LumiNUS Class Groups): Group 10

Group Members (Name, Student ID):

Sim Yuh Fan	A0249251E
Sahendra Pang	A0135877N
Santi-	A0249294R
Tan Xiang Feng	A0072452L
Zhang Zhewei	A0249258R

Sponsor/Client: *(Name, Address, Telephone No. and Contact Name)*

None

Background/Aims/Objectives:

<u>Background</u>

Diabetes is a worldwide health problem that have affected 400 million people worldwide. While Singapore has one of the highest proportions of diabetes cases, the Ministry of Health believes that a third of the diabetes patient are unaware that they are ill.

This is exacerbated by barriers to health screenings such as not knowing where to get free screening, procrastination, and not seeing the point of going for screening without subsequent follow up or explanation from a healthcare provider.

<u>Aim/ Objective</u>

Leveraging on the power of machine learning and Artificial Intelligence ('AI'), we aim to develop a tool to

1)   Allow individual to self-assess their risk of having type 2 diabetes

2)   Help individual manage diabetes

3)   Look out for signs of complications such as blindness and foot problems

in which individual can self-assess at their own convenience at zero cost.

Requirements Overview:

- Research ability
- Programming ability
- System integration ability

Project Descriptions:

To combat diabetes and at the same time bringing convenience to everyone, we have developed a phone app with 3 functionalities (aka Strategy):

- **Strategy 1: Predicting Risk of Diabetes**
  Individual will be able to predict their risk of having type 2 diabetes through some simple details such as height and weight.

- **Strategy 2: Lifestyle Recommender**
  Individuals might be clueless in the effectiveness of their physical activities and dietary plan in reducing the risk of diabetes. Leveraging on our reasoning system, one will have a better idea if their dietary intake and physical activities enough to reduce risk of diabetes.

- **Strategy 3: Detect Diabetic Retinopathy**
  Individual will be to detect Diabetic Retinopathy by simply uploading a photo of their retina to the app. By doing so, diabetic patient will be able to keep themselves "checked" and reduce the frequent visit to the doctor.