

Project Description for FIT3161 / FIT3163 (February Semester, 2024)

Project Title

An Automated Health Information System

Project Availability (Number of teams)

2

Project Supervisor

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Project Abstract

The pandemic has accelerated the adoption of health information system by general practitioners globally. Nevertheless, one major challenge still exist that hinders full usage of a health information system and one of it is slow data entry process. The slow data entry issues not only affect doctors when entering patient symptoms and diagnosis, but also affect patient during registration. This project aims to extend previous work to design and developed an automated health information system that uses various AI technology such as voice recognition system and handwritten recognition technology to assist daily operational workflow.

Project Overview / Motivation

The project motivation is to leverage AI technology in the design and development of a functional health information system.

Project Objectives

In this project, we aim to achieve the following objectives.

1. To extend a basic web-based health information system integrated with a mobile app.
2. To develop an extended data entry module implementing appropriate smart data entry approach.
3. To experiment and compare various machine learning technique to improve an automatic voice recognition module.
4. To experiment and compare various machine learning technique to improve an automatic handwritten text recognition module.

Project Background

See abstract

Suggested Methodology

Once the specific details gathered, each team then work using the following methodology:

- a) Create project management plan
- b) Create project design and prototype

- c) Create project progress report
- d) Create project proposal with literature review
- e) Start prototype development
- f) Write final report

Project Scope

The scope of the project are as follows:

1. The machine learning based voice recognition system must be able to recognize voice irrespective of gender, with background noise removal.
2. The machine learning based handwriting text recognition must be able to recognize both print handwriting (or block lettering) as well as cursive and pre-cursive handwriting. It should also be background noise resistant.
3. The developed web-based health information system must be a fully functional system with appropriate and scalable database design.

Project References