**title page**

Thank you Ziyuan.

And hello everyone, my name is Lin,

The topic I going to talk about is windows forms applications, all through the case of the Daily Health Monitor,

and I think you all have already knowledge of how the system work and behave as a console application with the introduction of ziyuan.

Well, the windows forms applications could be then considered as an application that can do what the console application can do,

but it is wrapped up by GUI (graphical user interface) for the convenience of users.

**objective**

One objective of the study is obviously learning how to build such graphically rich interactive applications that meet the requirements, and also are easy to use even for non-technical users.

And one way to build such type of window-based application is by using windows forms programming,

In detail, it includes learning how to use different windows forms controls, box, table,

learning how to handle user inputs, valid or invalid,

learning event handlers, how the interface should interact after operations of users, and also, learning the UI & UX design to build a user-friendly application.

Compare to console application, GUI application means more codes to implement and maintain, and also more possibilities to have bugs or errors during the development, quality management is therefore the way to assure the usability and quality of large projects. And this will be introduced in detail by Shishi in the next topic.

**requirements**

As said previously, the application should at least meet the requirements of users.

In this example, we should sort out the requirements first before building the application.

First of all, the application should allow users to do basic operations to the records database, add, edit or delete specific record, load database from file, save database to file.

Secondly, users could search or filter specific types of records through date, name, ginNumber, or filter only those suspect records if users want to.

And at last, for good user experience, shortcuts support and error messages for invalid operations are necessary, and all these are for making the application full-featured while still easy to use.

**solution**

And we finally proposed such a solution for those requirements after continuous improvement, including basically two forms.

one is the records explorer, which allows users to view all records or special records in a single table with the help of different filters and navigation sidebar.

And also support quick operations of adding, editing or deleting through key shortcuts and convenient tool and menu bars.

The form on the side is the record editor, designed for adding and editing specific record, and it supports error message warning for invalid operations and user inputs.

**conclusion**

This application takes about 4 weeks from zero knowledge to GUI programing, to an usable application, shown as solution v0 here, you can see the interface is rather complicate and confusing for users

, and finally to the final deliverable application, which is much cleaner as you could see.

During the study, we have learned the basic windows forms programing, which already enables us to build a featured application.

And we also learned good UI & UX design, which is one of important things for what we call a “good product”.

And finally we made great effort for continuous development and continuous testing, to ensure usability and quality of this application.