**title page**

Thank you Ziyuan.

And hello everyone

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

**Self-introduction**

Before the presentation, let me introduce myself briefly, my name is liulin, a future project engineer at company.

I am from ecole centrale de pekin, beihang university, and I just graduated a few months ago with a master degree of control science and engineering.

Before that, I have a bachelor degree of mathematics and applied mathematics.

So happy to join the schulumberger family, and can wait to work for real projects.

**Objective**

Ok, return back to the presentation topic, I think you all have already knowledge of how the system work as a console application after the introduction of ziyuan.

Well, the windows forms applications should be an application that can do what the console application can do, of course,

but it is wrapped up by a graphical user interface, for the convenience of users, who are not familiar with command lines, and technical details.

One objective of the study here is just learning how to build such, graphically rich, interactive applications that meet the requirements of users, 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,

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, generally, 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 for large projects. And this will be introduced in detail by Shishi in the next topic.

**requirements**

Before building the application, we should clear the requirements of users or product champion in the beginning.

First of all, the application should at least allow users to do basic operations to the records database.

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 it supports quick operations of adding, editing or deleting records through key shortcuts and convenient tool bar and menu bas.

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

**Demo**

Now let me show you the demo and how it works exactly.

Here is the final application, you can see the large blank space here for listing records, and alongside is the navigation sidebar for quick glance.

Menu bar and tool bar are positioned above the data table, if you are familiar with the file explorer in the windows os, you will know that the design is very classical and easy to use.

Ok, let’s start with loading database from file to begin the demo show.

You have many ways to do that, click the menu item or tool button, or using shortcuts ctrl+shift+o.

for me, I can just right click inside data table to invoke context menu, and choose Import from, select file to import, and voila, the database has been loaded, and the datagrid table and the navigation sidebar are refreshed respectively.

We can see 475 records here, and 156 records having abnormal health information.

And notice that the navigation sidebar is classing records based on name and ginNumber, in fact we can change it to date-based mode, by just right clicking inside the sidebar and choose what you want.

Besides, we can select any node in the navigation sidebar to filter corresponding records, here only records recorded last month are shown. Same for name-based sidebar.

But we can also use other filters provided here, to select a special date, to check only abnormal records, and search for specific ginNumber.

Talk about basic operations to records database, for example, we can add new record clicking the tool menu button, the record editor pops up for completing the detail of new record,

Of course we can also edit existed record.

For deleting records, except for deleting single record, we can also delete groups of records by deleting node in navigation sidebar, delete all bruklin records here, delete records for someone whose name begins with the “C” letter, or delete records of a special day.

And in the end, we can save the database to file for backup and operations.

**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 one deliverable application, which is much cleaner as you have seen.

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 efforts for continuous development and continuous testing, to ensure usability and quality of this application.

Future works include performance improvement in terms of speed of refreshing data table and sidebar, using database technology instead of files.

So thank you that’s all what we have done and learned for windows forms applications, and now let shishi introduce our efforts in quality management of projects.