**Learning New Coding Language**

Learning a new coding language and pickup one’s working project sometimes is a challenging task, below lists out of some methodologies and strategies on how to make learning easier.

1. Code Review, how to use the fastest way to pick up a programming knowledge with or little or even no knowledge.
2. Strategy or methods base on mentioned on point 1.
3. How to optimize the system or even further transfer to another programming language.

* Code Review

We are sometimes comes to a barrier that we need to pick up the project handle by someone. With tight time schedule and project deadline and lack of knowledge. Indeed, seems a hard or even impossible task. Is it impossible? Not quite! As we all know new technologies or new framework emerge after a couple of years. One framework (not like Java) won’t last too long. How to handle is base on how you tackle it. Let’s take an example for Angular framework. I am new or seldom listen on this framework. But not start digging on how to program Angular. The first thing I need to tackle is how to install the framework. The best method is going directly to Agular Website for instructions how to install it, don’t try to google it. When you have a working base or template, try to migrate the packages and code to the base framework you installed. I assume some of the codes needs packages to be installed. Usually, this kind of framework has a place to list all the packages to be installed (for example package.json or build.gradle for android). Usually when compile, it will not do it for one go. You will encounter some compilation errors. Now it is time to google it base on the error you saw. When starts googling, solutions come out, this is a way to increase your knowledge from installing a new framework. You will even have errors pointing out which part of the code has error, this type of googling and solving problems, will give you an overview of the structure of the code. You even need to modify some of the code in order pass the compilation test. Do we need to read or study the whole program when adding new functionality or features? Not quite! For instance, the program is about restaurant and you need to add a new payment method, what you do is just focus on the ordering page, because it is the ordering page source code that needs to add this new payment feature. I guess you will not go to the login page source code to figure out how to add the new payment method. As I told you after several days of tackling how to install the framework and compile the program, you should have an overview of the structure of the system. We are all developers, we all have sense of how a program code works, plus the work flow. By looking at the coding structure, I think this is not a hard or impossible tasks.

* Strategy or methods base on point 1.

As some of the strategies mentioned above. Perhaps you will ask: “I want to fully understand the System, is there a way to handle it efficient or quickly?” Yes! But base on which part you want to understand. For instance, the restaurant application, you want to know the process on how to select the menu and take order. Where will you learn? The same! the part that of the source code where the select menu and to take order resides. Sometimes, due to complexity of the system, you don’t know exactly where the code resides. Then you have 2 methods to handle it. One, is create an error purposely, so when the user visits the select menu page, it will cause system error, either the system shuts down, or an error dialog prompts out. Second, change the label text purposely. For example, change the naming label, you will see the changed text label on the selecting menu page. Then you will you know you are visiting the right place. Start from there, from that point expand to all other places of the system. Trace all the functions, then trust me you will have a clear picture on how the “Select menu and take order” works.

* How to optimize the system or even further transfer to another programming language

How to optimize is based on data and how you treat it. You can’t and will not optimize a user interface. It Is all about data! The only way is SQL and database tunning. The first thing is creating primary keys or composite keys for unique columns, this is a must, even if the tables have just a few records. Create foreign key constraint that point to the correspondent primary key. You may ask if you have a large database system, it is difficult to check whether the constraints is added or not. That’s right! But you can open the “Entity Relation Diagram (ER Diagram for short)”. If everything is correct, you will able to view the ER Diagram. As I know Microsoft SQL Server and MySQL has ER Diagram for you to view. Give it a check! The second is SQL turning, if you add primary keys or composite keys then it comes with an index automatically, you don’t need to added it manually. But a note: when using composite keys order matters. For example: you are using HKID and Username for composite keys then in the SQL select statement must follow the order, For example: Select \* from employee where HKID = “PXXXXXX(9)” and Username = “Alan” , but not the reverse, Select \* from employee where Username = “Alan” and HKID = “PXXXXXX(9)”; because the composite keys when combined will create a hash table for it, therefore order matters.

How to transfer one programming language to another efficiently is based on how similar both languages is, try to find the similarities. I can give you an example, for instance I am working on the react native framework to create an android and IOS apps. How can I transform a mobile app to a website? The answer is look for similarities, we are known react native is structure with “<view>” tags, html coding is based on “<div>” or “<span>” tags. Try to global replace it, this also applies to style sheet. One may argue it is a monolithic system it is difficult to replace individually, then you can build a specific program (written in any language) for it. For this program, you can add any exchange algorithm, for example change all the <view> tags to <div> tags, changing the style attribute to targeted one…etc. This program will scan all the source code and change it all at once. But keep in mind, still you need to change some logic manually, but it gradually decrease the transfer time.