Krystal Educational Platform

Certificate in Frontend Web Developer

前端網站開發人員證書

Prepared by—Raymond D. Neoh

The course objectives

In The Chief Executive 2021 Policy Address to develop Hong Kong into an International Innovation and Technology Hub.

The current-term Government has made unprecedented strides to promote I&T development by investing more than $130 billion over four years. Hong Kong's I&T industry is flourishing at the moment, and the interaction among the Government, industry, academia and research sectors has also been strengthened significantly. To sustain this good momentum, we are keen to develop a more comprehensive I&T ecosystem, so as to enable re-industrialisation to take root in Hong Kong and complement I&T development in Shenzhen and the GBA, thus making I&T a new impetus to the economy of Hong Kong and developing Hong Kong into an international I&T hub as promulgated in the 14th Five-Year Plan.

It is important that to offer course that can raise the capability of Hong Kong IT personnel by keeping pace with the latest technology development and innovation. Python is the key to all major application development in the world today. By offering this course will greatly enhance the employability of the ERB candidate and help strengthen Hong Kong position as an Innovation and Technology hub. Python programmers and engineers are in great demand by the industry but in a short supply. **Average entrance salary are from HK$14K to HK$24K.**

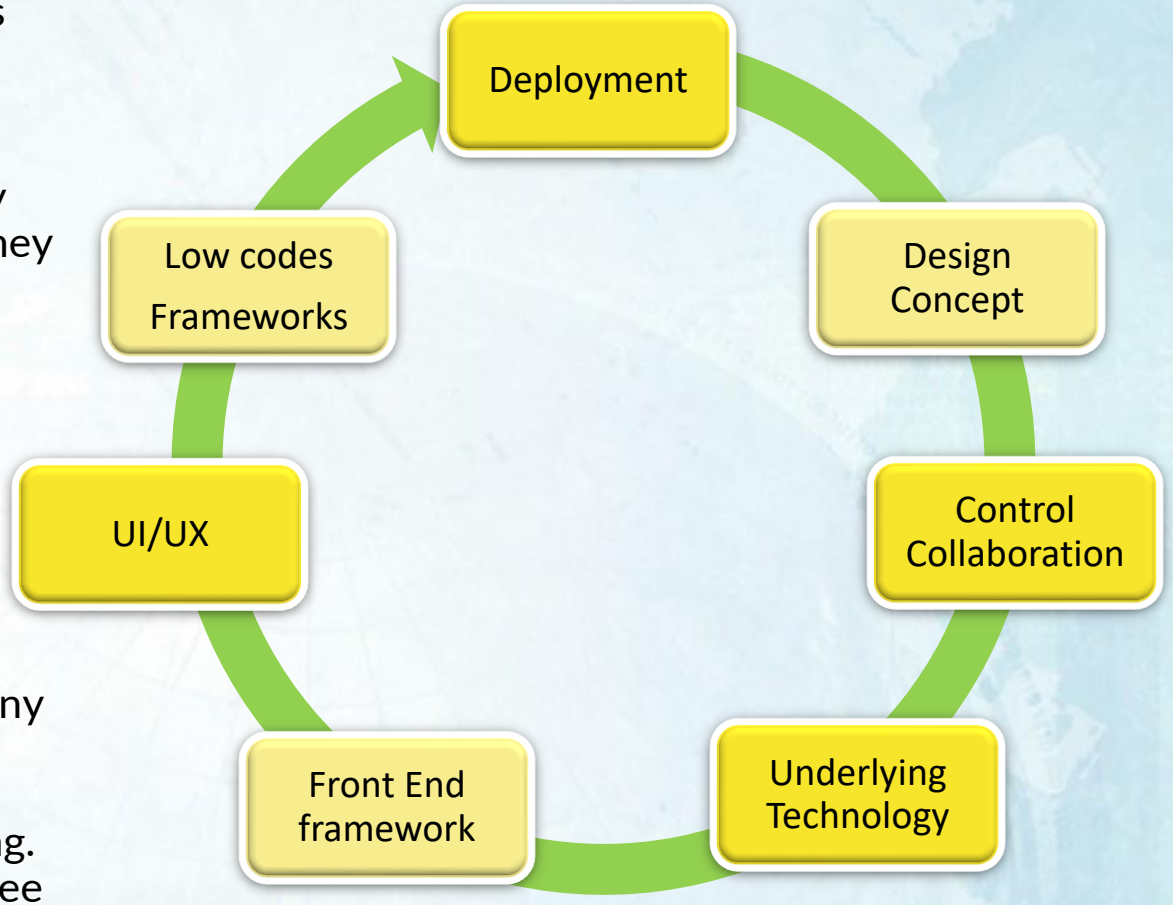
Prepared by—Raymond D. Neoh

Curse structure

The course is designed with 7 modules. Each of these modules lead to the final project using all the knowledge, skill and tools they learn in the course..

We will cover all the basic of developing the front end of every website and the knowledge, skills and tools needed to do so, they are:

1. Design concept—the heart of every web-based project.
2. Control and collaboration—how people work together and what needed to make a project sustainable and operable.
3. The underlying technology—that make every web-based project possible, the language of the internet.
4. Front End framework will save the student a lot of time in preparing the final project.
5. UI/UX is interface needed to interact with the website or any application
6. We will introduce low codes framework so students know how to create their project without a deep knowledge of coding.
7. How to deploy their project to the internet so people can see their works.



https://www.planetcrust.com/
https://www.monocubed.com/blog/best-front-end-frameworks/
https://technostacks.com/blog/best-frontend-frameworks/
https://www.bacancytechnology.com/blog/best-frontend-framework
https://developer.mozilla.org/en-US/docs/Learn/Front-end_web_developer

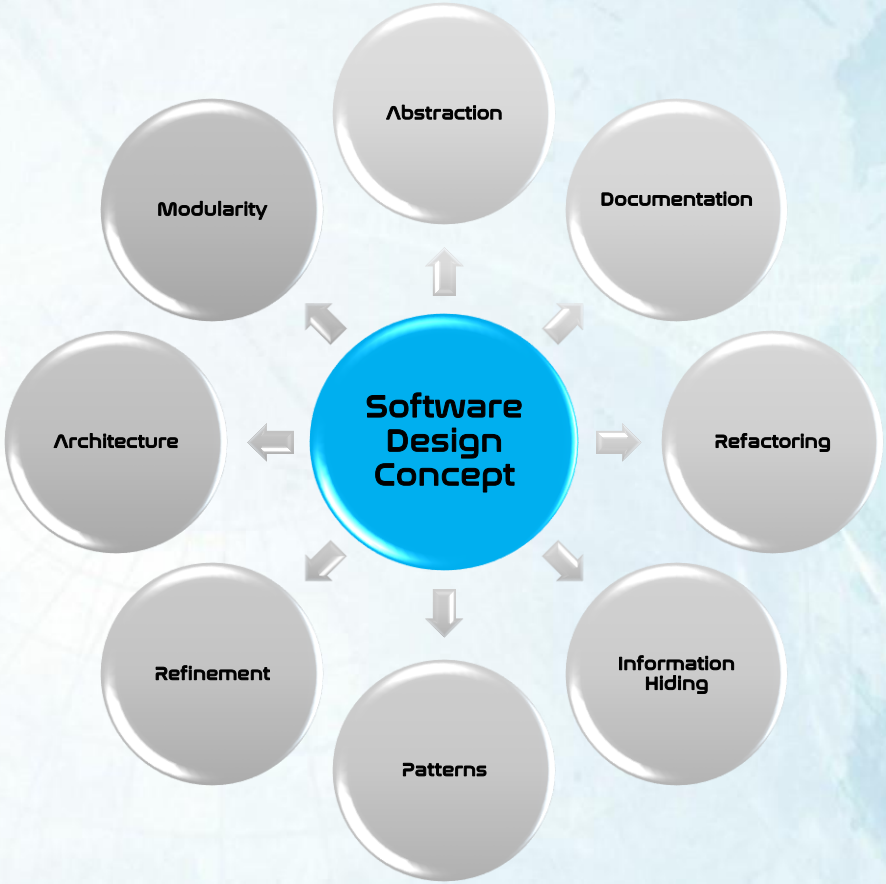
Module 1– Design Concept

Design Concept

It is important for every potential software engineers to understand the basic concept for designing any pieces of software. Whether they are designing a website, a e-commerce platform, automobile self driving system, or games, robotic, fintech applications, the followings design concept must be implemented in their project design stage and executed accordingly.

The software engineering design concept is important no matter what programming languages or tools are used. The end products reflects the thinking and planning that goes into design such a final product.

SRS (Software Requirements Precertification) documents dictate what the users require the final products will perform and deliver.

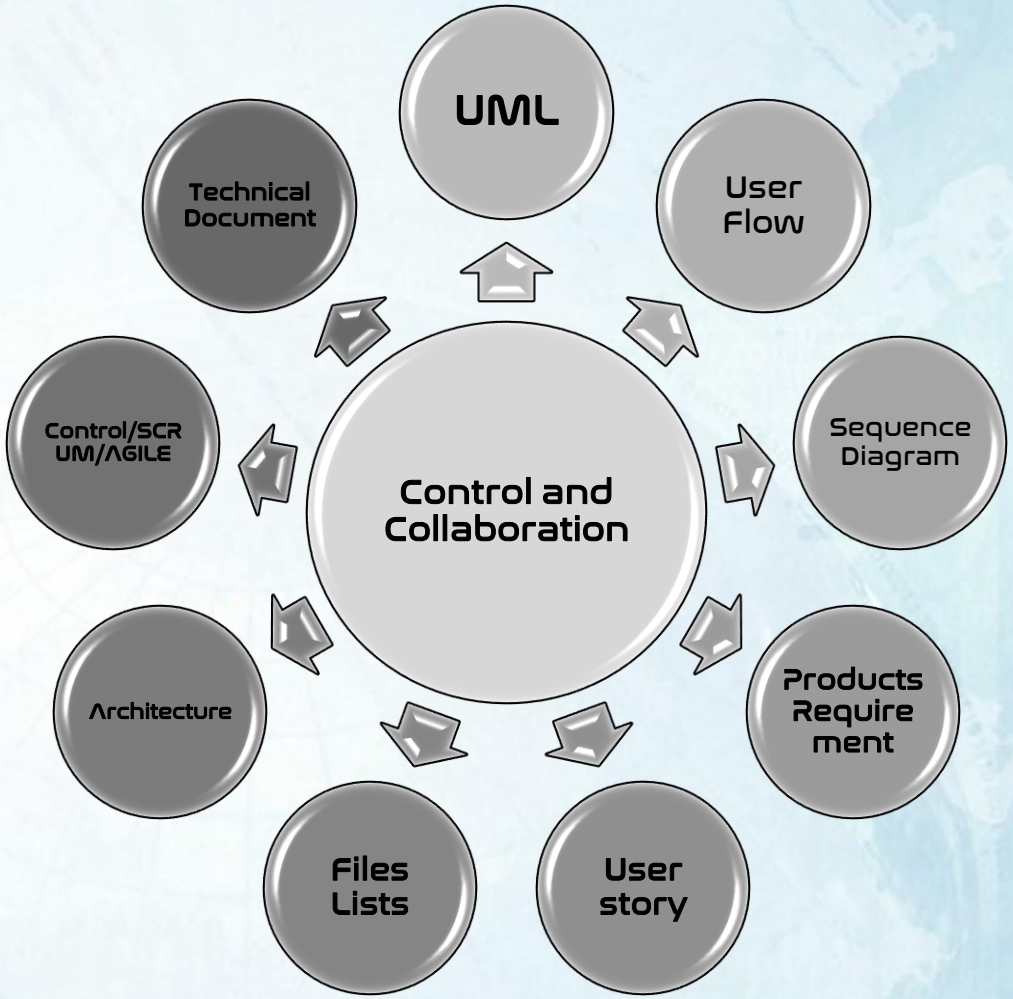


Module 2— Control and Collaboration

Control
Collaboration

Before starting any web design project, it is important that we have the following documents clearly layout and control procedures in place, they are:

1. UML
2. User Flow
3. Sequence Diagram
4. Products Requirement
5. User story
6. Files Lists
7. Architecture
8. Control/SCRUM/Agile
9. Technical Document



Module 2— Control and Collaboration

Control Collaboration

In this Module you will learn about version control and how to use repository for storing your codes. In addition, we will explore different IDE (Integrated Development Environment) for development your code, we will discuss the following indetails, they are :

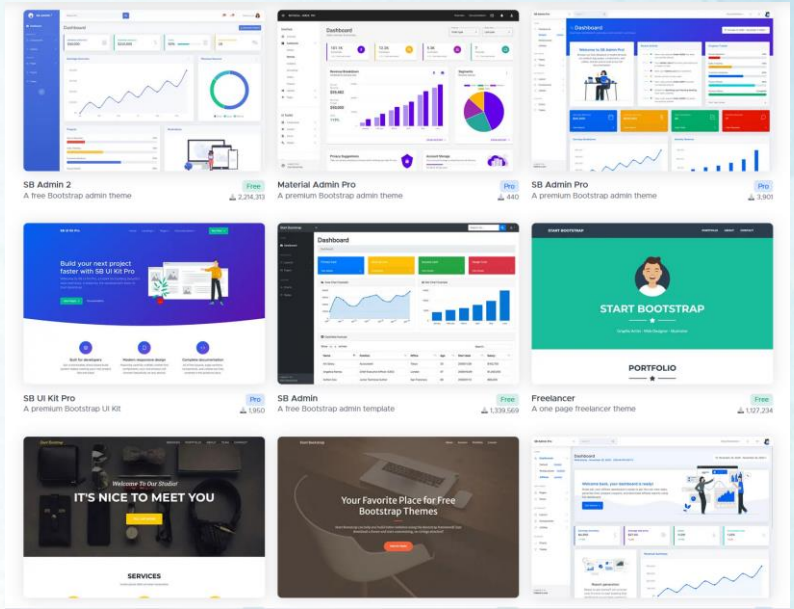
1. What is IDE?
2. We will explore Microsoft VB Code environment
3. We will look at Django and Python IDE such as Pycharm
4. We will dive into using GIT as version control platform.
5. We will examine how to push code to outside repository such as Gitbu.
6. We will also look at a China based repository such as GITEE.com.

Module 3– Underlying Technology

Underlying Technology

The underlining technology are the languages that program the internet. We will provide our students the followings, they are:

1. What is internet programming languages.
2. An introduction to HTML.
3. An introduction to JS (Java Scripts) and some of it varirty.
4. We will look at what is CSS (Cascading Style Sheet), how to use CSS, 3 types of CSS and why CSS is different from HTML.
5. We will look at development library such as Bootstrip, what its used for, bootstrip vs CSS, what is the different between bootstrip and HTML. How to used bootstrip for front-end development.



https://startbootstrap.com/previews/clean-blog-jekyll
https://startbootstrap.com/

Module 4– Front End Framework

Front End Framework

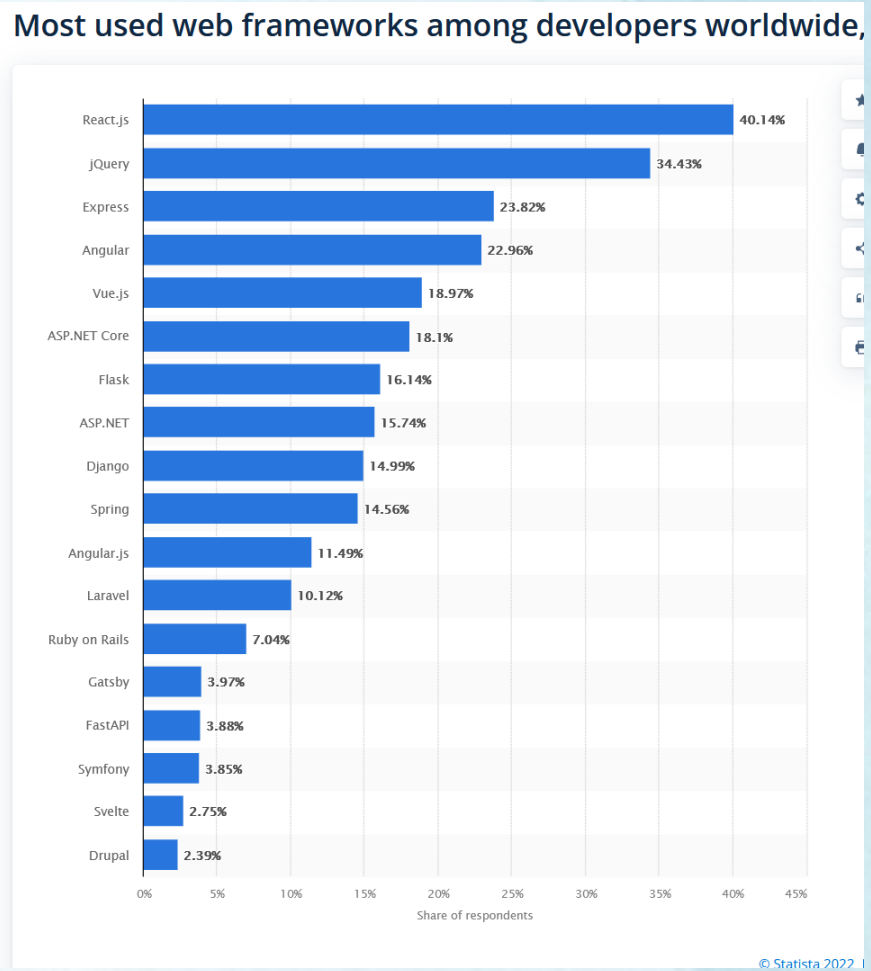
Using framework student will learn how to deliver exceptional user experience and shorten development time.

Frameworks contain basic software modules with ready-to-use pieces of code that developers use to solve common programming tasks, such as managing AJAX requests or defining a file structure. They also dictate the rules for building the app architecture: you get a skeleton that should be extended and changed according to specified requirements.

Frameworks may include utility programs, code libraries, scripting languages, and other software that facilitates the development and integration of various components of a large software product.

Because of frameworks, students don't have to start projects from the ground up but have the foundation for the implementation of other project-specific features. This helps you speed up the development, and improve the productivity and reliability of solutions.

Frontend in web development is the graphical user interface of a website or an application. In other words, it's the part that users can see and interact with. This part is required to be user-friendly to efficiently present information from the backend.



https://technostacks.com/blog/best-frontend-frameworks/
https://www.sam-solutions.com/blog/best-frontend-framework/
https://www.simform.com/blog/best-frontend-frameworks/

Module 4– Front End Framework

Front End Framework

We will discuss the pro and con of the top 5 framework and we will concentrate our effort into 1 framework for the course, which are React JS.

We will introduce and discuss the following framework, they are:

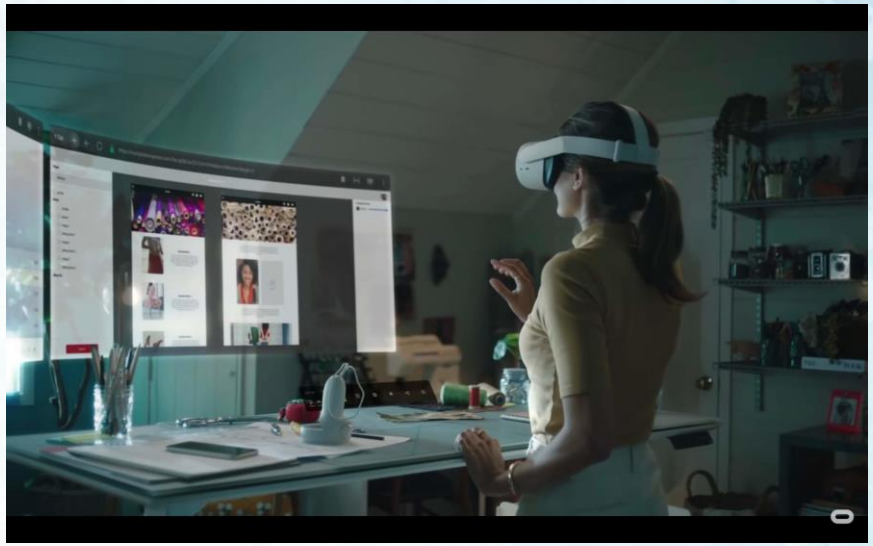
1. React JS– is created by Facebook, its virtual DOM make it unique from others framework. An ideal framework for those who anticipate high traffic and need a stable platform to handle it.
2. Jquery—JQuery is one of the simplest Frameworks out there. Even with very little programming language, one can easily use JQuery.
3. Node JS-Express—is a fast, unopinionated, minimalist web framework for Node.js
4. Angular—Angular is a powerful open-source frontend development framework created by Google in 2010. It has superb performance and useful functional features, including directives, filters, two-way data binding, dependencies and more.
5. Vue.JS—was first released in2015 and the latest version Vue 3.0 was released in2020. Vue 3.0 provides more benefits in agile development; packages have become smaller; new APIs for solving large-scale tasks have appeared. Vue also supports Server-Side Rendering (SSR), providing more development opportunities.

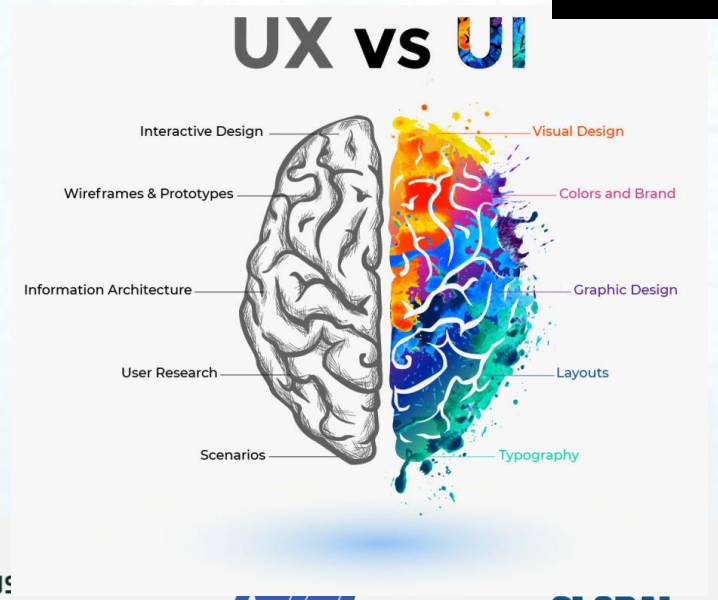
https://technostacks.com/blog/best-frontend-frameworks/
https://www.sam-solutions.com/blog/best-frontend-framework/
https://www.simform.com/blog/best-frontend-frameworks/
https://dev.to/ericchapman/your-first-steps-with-express-js-34op
https://developer.mozilla.org/en-US/docs/Learn/Tools_and_testing/Client-side_JavaScript_frameworks/Vue_getting_started

Module 5— UI/UX

UI/UX

UI/UX –User Interface and User Experience are the way how we human interface with the machine, also with the Metaverse. Student will learn the basic design principles of UI/UX. Work on tools that help design good UI/UX.





penpot

https://penpot.app/

Module 6— Low code development platform

UI/UX

DECT-KS© TOOLS

Low-code development platform is an application that provides the Graphical User Interface for programming and thereby develops the code at a very fast rate & reduces the traditional programming efforts.

These tools help in the fast development of code by minimizing hand-coding efforts. These platforms not only help with coding but also with the quick setup and deployment.

budibase

Huginn
Your agents are standing by

WiX

https://budibase.com/
https://www.bswen.com/2021/11/trending-low-code-platforms-in-2022.html
https://github.com/huginn/huginn
https://thebusinessblocks.com/open-source-software/open-source-low-code-platform/
https://stackstorm.com/

Module 7— Deployment

Deployment

In Module 7 we will examine 3 major platform we can use to deploy Django project with, these cloud-based platform are :

1. Digital Ocean
2. Heroku
3. AWS.

These server all provide free testing cloud for deployment of your web projects