Professional Self-Assessment

SNHU has been provided a wide range of computer program language to prepare us for today competitive market. In today computer science, the software developer must stay current with the fast pace demands. Much new software development process, tools, strategy, and mindset have been introduced to the computer programming world. While I have learned different programming languages such as Java, C/C++, Python, MongoDB, SQL, etc., that helps me build a concrete programming mindset. I should mention that I have mastered the Agile methodology which most company practicing nowadays. With that, I can be a scrum master, product owner, software developer, or software tester. I have a good knowledge of Version control tool like GitHub or GitBucket where it provides efficiency as far as collaborating in a team environment. It makes peer code review very effectively. Programming good practices are very important as well. Annotation is very important in the programming business, but it does not need to annotate every line. It is not only to help other programmers that coming along but keep you as programmer honest from the ethical standpoint. A good practice is to document the code with comments so that it easy to debug late if needed.

In this self-assessment, I will discuss a different area of study below:

- Collaborating in a team environment
- Communicating to stakeholders
- Data structures and algorithms
- Software engineering
- Database
- Security

Collaboration and Team Environment

Version control tool such as GitHub allows developer collaboration with the team much more efficiently and effectively. This play a major role in many company's success. GitHub makes easier to manage their code while giving users the ability to collaborate with the team remotely or locally, keeps track with the changes, better control with workflow without duplicate the work assignment. Other features comprise of code reviews, branching, merging, and commit are great for the developer to focus on coding and not having to worry about documenting.

Communicating to stakeholders

Communication is a must-have skill in many professions. Particularly in the computer programming field, miscommunicate could easily lead to failure. Communicating to stakeholders are very crucial for the team success in releasing product on time. During the Project Management in IT-328 class, I had the opportunity to demonstrate my communicating with stakeholder's skill to ensure all stakeholders on track with the project. Writing an email,

hold a meeting, provide a status report, and keep everyone inform are a good way to keep the team on the same page on project progression.

Data Structures and Algorithms

Data Structures is a very complicated concept to learn to me. Data structures and Algorithms are the most ask subject in a job interview. This shows the importance of this knowledge in computer programming. Throughout this course, we had done many exercises including Data structures like Vector, Hash Tables, and Tree Structures and Algorithms like Linear searching, Binary search, Sorting and Hash/Chaining. Although there are pre-defined classes that perform these data structures and algorithm very efficiently but understand the process under the hood is beneficial in the professional field.

Software engineering

Software engineering is the principles used in software development, which typically relates to the design, development, testing, release of software systems. Software engineering utilizes a meticulous and structured method to develop software with the defined goal of cultivating the quality of the software. A software engineer is accountable for designing software systems and programmers are responsible for the implementation.

Object-Oriented Analysis and Design class help me to better understand the engineering principles. It involved the use of the unified modeling language (UML). I had the opportunity to create UML structure models that are clearly articulated based on software system requirements, functional models, and structure models.

Database

SQL is very popular, particularly in online shopping software. Database is effective tool for Web Application and it is widely used on the World Wide Web. SQL can contain several tables to keep different sets of information, but each table related to each other, for example, a table to hold personal user details, a table for login information, a table containing the service ordered, or a table for order history. I must say that I have learned a lot about SQL with a short amount of time. I had enough practice the SQL that I can manipulate the data without having to think about it. My skill in designing and laying out the database along with organizing skills is very valuable for the personal/professional portfolio.

Security

Software engineer accustoms to design devices to be fast and efficient. Embedded microcontrollers are becoming more common electronic devices in today technology. This bears vulnerable to security breaches to devices that are hackable such as medical devices, cars, cell phones, and smart home technology. Now, the software engineer must change the way they design software with security in mind. Implement SHA-1, SHA-2, SHA-3 or MD5 hashing

authentication is one way to secure user information. This hashing is very highly secured and can be broken. More advanced methods need to be used for more secured method.

Artifact

As demonstrated in this project with enhancement in three categories of algorithms and data structures, software design and development and databases, each component implements many of my knowledge that I gain throughout the program at SNHU. I feel very confident that these will showcase my ability in my professional career and brings an asset to my potential employer.