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Project Team 6:

Milestone Report #3

Lesson Learned

At the beginning of the semester, a term project was announced in which students had the opportunity to create an application. As required by the assignment guidelines, we had to construct a program entirely on our own efforts and volition. As such, the first step was to assemble a team of students that would assist in the development of our software. Secondly, with any successful team, a project manager would need to be elected to aid with major decisions. With our team, we would need to form a consensus on what type of unique program would fulfill the requirements of the project.

After considering the advantages and drawbacks of various concepts, we settled on a program that would manage a warehouse inventory. This program would be essential to any business, with great scalability for various sizes. It would allow for the characterization of items

with the following traits: name, color, model, revision (year), price, SKU and serial number. With the traits implemented, the program would provide the user with a list of the following commands:

- adding/removing items

- searching for existing items (by different traits)

- printing the inventory

- updating an item's value in the system

The project assignment gave us insight which comes with on-hands experience of having to develop a program in a team setting. Unlike traditional solitary assignments and projects, which give specific directions regarding how and what should be done, this assignment provided us with the opportunity grow as individuals and enhance our skills in interpersonal collaborations. Additionally, our group utilized the great pool of creativity present to develop a program that incorporates the culmination of concepts and real world applications presented in the classroom throughout the semester. We quickly learned the importance of work delegation work among team members, as a project of this scale cannot be completed effectively alone as in the field of Computer Science and Software Engineering. Since work was divided between team members, it was also critical to organize the implementation of distinct parts of the program. As a result, some functions and methods had to be written before others.

Effective time management was a key element as we learned to complete each task promptly. Being engineering students, it is crucial to use our time wisely. Weekly meetings were set in place to discuss various ideas and changes to comply with the milestone deadlines which he had set for ourselves and were included in the assignemnt. To facilitate the completion of our

self-imposed deadlines, we strengthened our collective skill in using physical and online collaborative programs including GitHub, GoogleDocs and Marston Science Library.

Communication is vital when working on a team programming project. Therefore, it is pertinent that each member knows their individual tasks as well as the tasks assigned to their peers as to stay organized and complete all elements of the project. Since the development of the program should always have a constant and smooth flow, work completed by team members must be in sync. After completing the project, our group realized that the best way to ensure that our individual efforts ran parallel to that of the team was to constantly keep our team members updated with the current standing of the code and recent modifications of it. These updates allow other team members to adjust their work to keep in line with that of the main source code and the projects overarching goals.

Future Capabilities/Work

As with any group project, the team's original ideas did not make it to the first release of the software. We had to make key decisions on the main features that would provide the most functionality for the user and implement those on the initial release. There are certainly other additions that we would have add to future expansions with either a patch or an update. A list of possible features/functions would be:

- *Graphical user interface*: GUI would make the program more intuitive for a user as opposed to having to run the program through the terminal.

- ***Importing/exporting file data***: Would allow the exporting and importing of files for greater portability, stronger security, increased software utility and allow for dynamic scalability.

- ***Alerts for low inventory (restocking alert):*** If this is paired with sales tracking, we could implement a function that alerts the user every time an individual item is low on stock and prompts the user to reorder.

- ***Storage Management:*** This functionality could help estimate the physical storage left in the warehouse as products are added or removed into the system through the utilization of stacks to employ concepts such as FIFO and LIFO.

- ***Sales Tracking***: Ability to compare shelf-life of some items versus others by analyzing how quickly they are sold.

- ***Demand Estimate***: In conjunction with Sales Tracking, this function could estimate the current and projected demand for products based on the known rate at which their inventory changes.

- ***Logistics***: Shipping, Receiving Capabilities, and In-Store Barcode Generator.

- ***Network Capabilities:*** This feature would allow multiple stores to communicate the varying stocks across multiple locations, thus making it easier for the business, employees and customers.

- ***Bulk Item Manipulation:*** This function would add the flexibility of simultaneously modifying multiple product's storefront details, provided they have the same SKU.

In conclusion, the process of elementary Software Engineering has taught us much about the work which is invested into developing a program, and is something which may applied to our future careers as programmers or engineers. With any organizational software development, there will be an elected program head and a large quantity of premeditation required to formulate a strong foundation upon which the future of the program will be built. This foundation is dependent on the strength of its team members and their respective resolve to ensure the ultimate success of the project goals. In doing so, each member embodies the spirit of teamwork and of the industry as a whole. Even before the first line is written, great programs are made not by the many lines of code, but by the people creating them.   As such, any project is not just the sum of its parts, but each individual whom poured their labor of love into the creation of the next great advancement.