

SOFE 3490U - Software Project Management
Lab 3 Report



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Project Effort Estimation:

COCOMO model used as it is a simple and effective technique to estimate project costs and manpower needed during the early stages of the project.

We found the average lines of code to be 100,000 for a restaurant POS application on the Apple Appstore/Google Playstore. Therefore, we will be using this value as our SLOC. We will also use Embedded Mode for our COCOMO model as the team will consist of programming interns and novice programmers.

Embedded Constants: A = 3.6, B = 1.2, C = 2.5, D = 0.32

Effort Estimation

$$\text{Effort} = A * KLOC^B$$

$$\text{Effort} = 3.6 (100)^{1.2}$$

$$\text{Effort} = 904.279 \text{ person months}$$

Duration Estimation

$$\text{Duration} = C * E^D$$

$$\text{Duration} = 2.5 * (904.279)^{0.32}$$

$$\text{Duration} = 22.078$$

Staffing Estimation

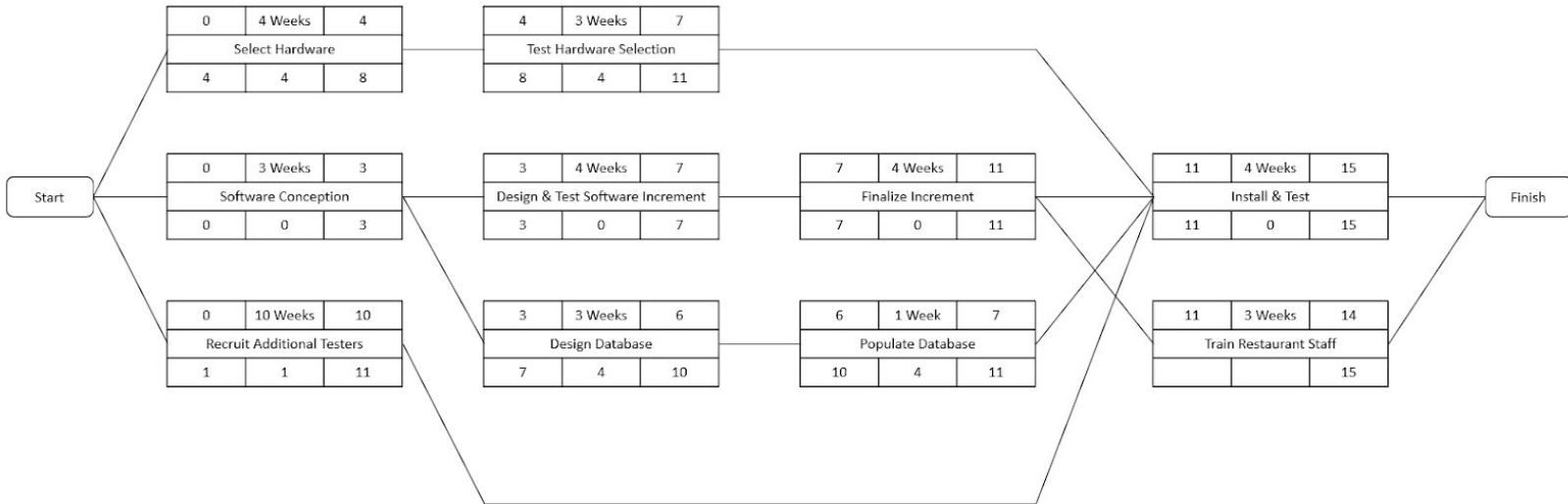
$$\text{Staffing} = \text{Effort} / \text{Duration}$$

$$\text{Staffing} = 904.279 / 22.078$$

$$\text{Staffin} = 40.959$$

Activity Planning:

Preliminary Activity Diagram:



Project Risks:

As with any software project, there are risks involved in the development stage and the deployment stage in the project lifecycle. Here these risks will be identified as well as countermeasures to mitigate these risks.

Development

- Risk having the ordering system user interface being too complex for users to understand and navigate. To counteract this risk, we shall do extensive focus group testing to ensure the end result is user friendly.
- Risk relying on a specific version / operating system to enable product functionality. Relying on a single operating system or version of an operating system presents risks that the system can become obsolete or present difficulties using newer tablets with the system. To reduce this risk the system should be robust enough to function on multiple versions / operating systems to prevent it from becoming obsolete.
- Risk not meeting all customer requirements due to miscommunication of requirements to development. To avoid this the development will use the agile development method, so that all team members get the assistance they need, the code written is of the highest standard, and communication with the client is handled by the scrum master.

Deployment

- Risk customers having difficulty understanding how to use the tablet ordering system. To mitigate this risk restaurant/hotel staff will be trained extensively on the usage of the system so that any assistance can be provided as necessary.
- Risk of security breaches through the tablet operating system by leaving the ordering app and entering the tablet operating system. To reduce this risk we will ensure that the customer will have low level privileges and be able to leave the ordering system app. Additionally security updates to the app will be regularly issued when needed, alongside conventional tablet operating system updates.
- Risk of system not integrating and performing as required when deployed. To reduce the risk of this happening in the actual deployment environment, thorough integration testing will be performed on the system.