



Faculty of Engineering and Applied Science  
SOFE 3490U Software Project Management

Group 15

**Lab 3**

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# Cocomo Model Calculations

KLOC = 20,000

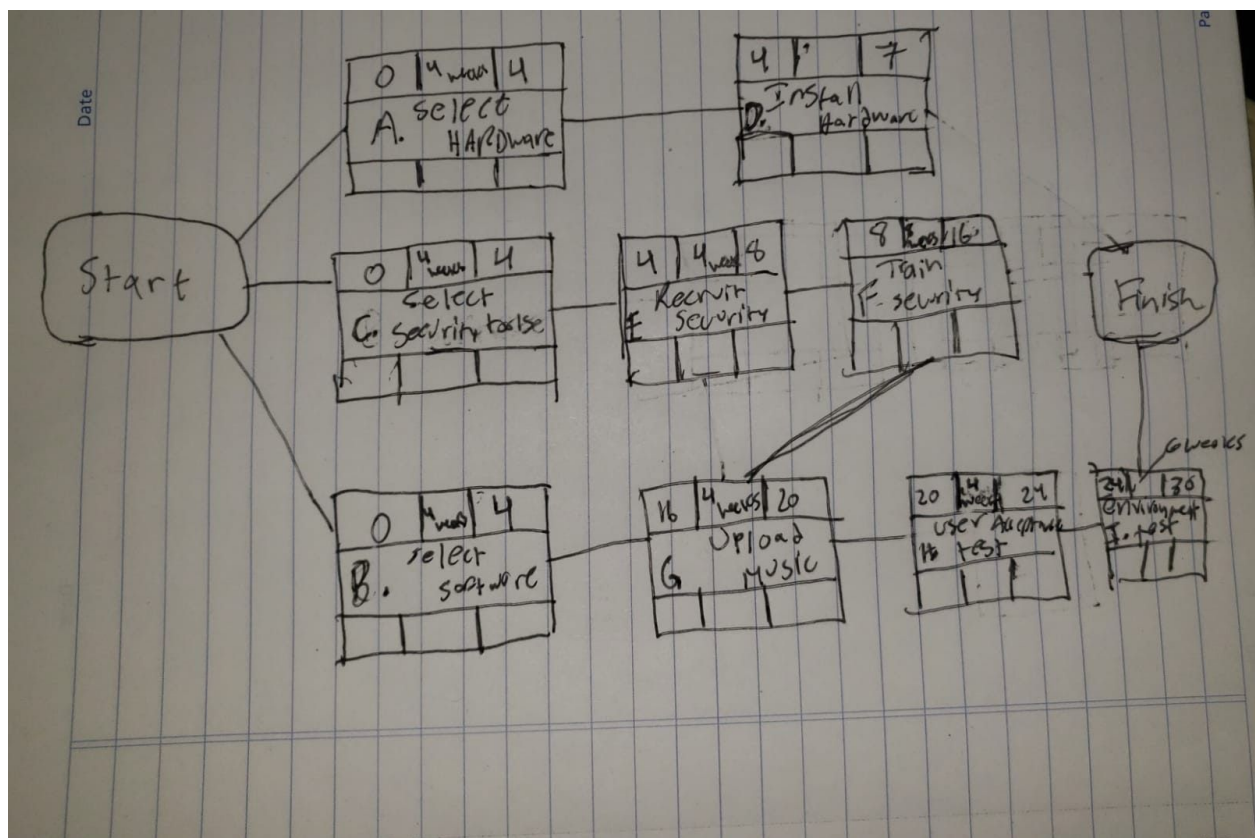
Project Type = Semi - Detached

Effort =  $3.0(20)^{1.12} = 85.95 \sim 86$  Person - Months

Duration =  $2.5(20)^{0.35} = 7.13 \sim 7.5$  Months

The Music Hub will consist of multiple servers of huge capacity which will need efficient and supported code to handle the capacity of millions of users. Therefore 20,000 Lines of Code seems like an adequate number that may increase as the more analysis is done. Music Hub is Semi - Detached as it is a complex server - based application that will hold petabytes of data as well as require high level security to keep track of which users are doing what with the application.

## Activity Diagram:



The first step is to select the hardware to use for the building and operation of this application. For example the data centers, the servers and the machines with the right specifications for the building and running of the application. Next we decide the softwares needed for the coding of this application. This depends on the platform we decide to host the service on such as mobile or web or both. Once that is decided we need to add security to the service for the detection of privacy concerns and copyright. This includes selecting the right tools to build the security framework and infrastructure. Next we recruit the staff required to maintain security of the application. The next step would be to train the staff on each part of the code and where the security concerns lie and the measures we take to ensure the application is secure. Training will take a major amount of time because our service depends on competent staff that are able to control and manipulate the software for any problems that will arise. Once the whole system is in place we can upload the music and move on to user acceptance testing and finally environment testing to finish off the process. This whole process is estimated to take around 30 months or 7.5 months to complete.

## Risks:

### **Completion of Tasks on time:**

If workers are not able to complete their assigned tasks on time, this can cause a delay in the deployment of the project. To prevent this risk, we will first hire workers with multiple years of experience and after they are hired, they will be monitored heavily for a 3 month period to confirm they will not slack on the production of the project. If they do slack, we will look for a replacement immediately.

### **Change in Requirements:**

If there is a discovery of a change that should be made in the project during development, the project deployment could be delayed and there can also be added costs to make this change. To prevent this risk, the requirements should be thoroughly assessed before the development process begins. This way, the requirements set at the beginning will have a better chance to stay the same until deployment.

### **Lack of Communication:**

If there is minimal communication between the workers and the stakeholders, the project can be produced and the stakeholders could be disappointed in the finished product as it does not succeed their expectations. To prevent this risk, there will be meetings between workers and stakeholders every week to discuss all details and problems (if any) of the production.

### **Underestimation of Costs:**

If there are any drawbacks that are encountered during the development phase of the project, more work will need to be done. At the beginning of the development phase, a set cost is estimated, and this drawback will increase that cost as more money will be needed to spend on workers or even tools. To prevent this, in the development phase, extra money should be estimated initially, in order to prevent looking for a resource that will provide more money during the development phase.