Software Project Management

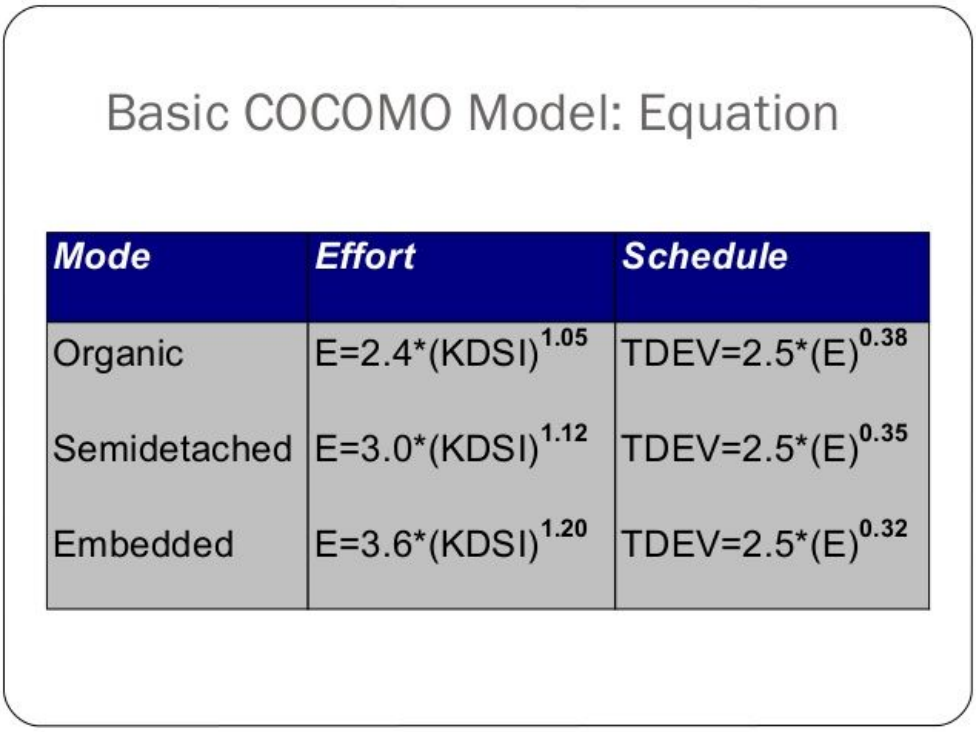
Lab 3

Group Members:

Name	ID
Zhou Mu	100676964
Qinghao Lu	100627854
Faisal Pindar	100629476

Estimated time:

Below is the basic equation for the COCOMO model.



Explanation:

Here, the effort is the amount of labor that will be required to complete a task. It is measured in person-months units. And the schedule simply means the amount of time required for the completion of the job, which is, of course, proportional to the effort put. It is measured in the units of time such as weeks, months.

For our iPad Restaurant Application, estimated lines of code are predicted to be about **4500** lines. And our group belongs to the organic system.

So we have effort = 2.4*(4.5)^1.05 = 11.64 person-month
And schedule = 2.5*(4.5)^0.38 = 4.43 weeks

Intermediate Model:

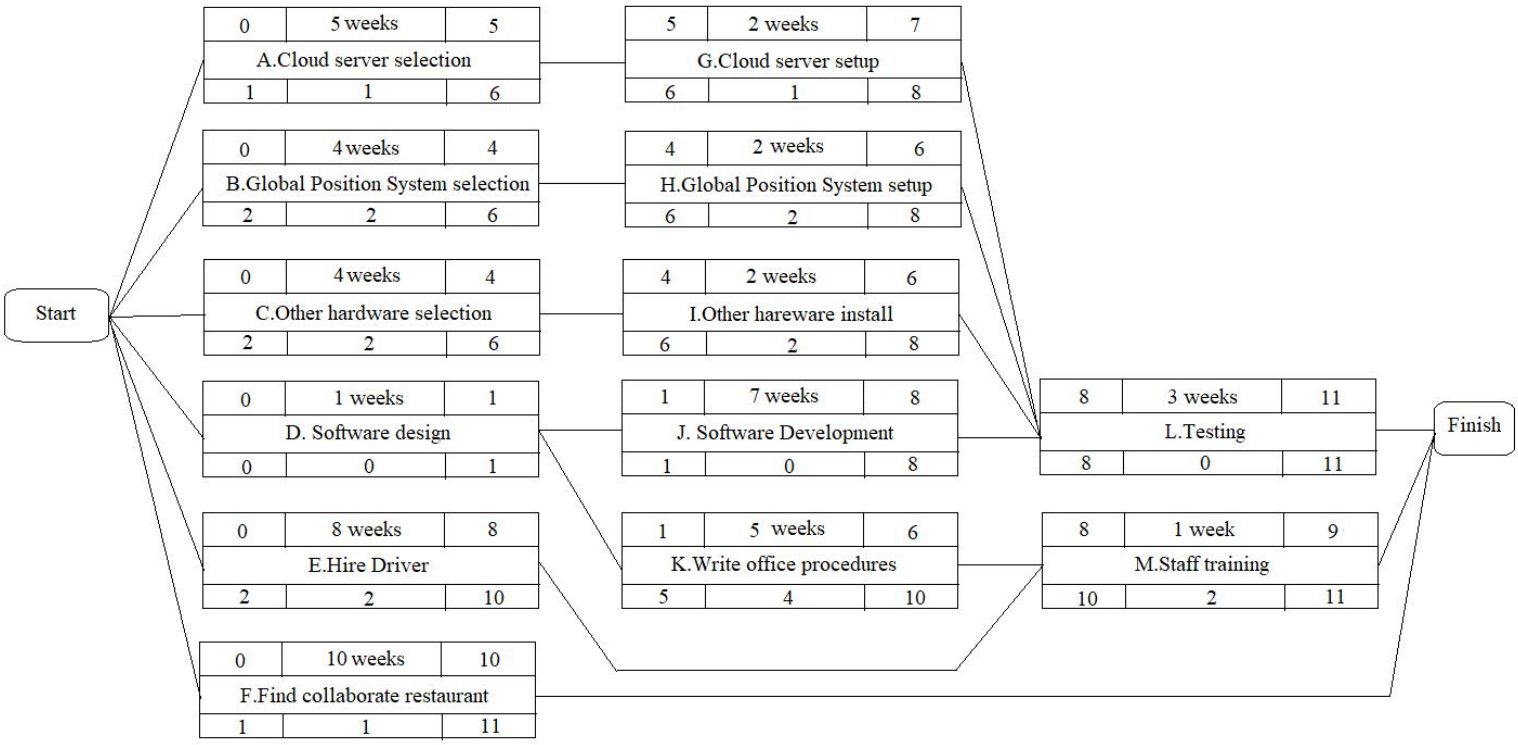
$$\mathrm{E}= (\mathrm{a}(\mathrm{KLOC})^{b}) * EAF$$

COST DRIVERS	VERY LOW	LOW	NOMINAL	HIGH	VERY HIGH
Product Attributes					
Required Software Reliability	0.75	0.88	1.00	1.15	1.40
Size of Application Database		0.94	1.00	1.08	1.16
Complexity of The Product	0.70	0.85	1.00	1.15	1.30
Hardware Attributes					
Runtime Performance Constraints			1.00	1.11	1.30
Memory Constraints			1.00	1.06	1.21
Volatility of the virtual machine environment		0.87	1.00	1.15	1.30
Required turnabout time		0.94	1.00	1.07	1.15
Personnel attributes					
Analyst capability	1.46	1.19	1.00	0.86	0.71
Applications experience	1.29	1.13	1.00	0.91	0.82
Software engineer capability	1.42	1.17	1.00	0.86	0.70
Virtual machine experience	1.21	1.10	1.00	0.90	
Programming language experience	1.14	1.07	1.00	0.95	
Project Attributes					
Application of software engineering methods	1.24	1.10	1.00	0.91	0.82
Use of software tools	1.24	1.10	1.00	0.91	0.83
Required development schedule	1.23	1.08	1.00	1.04	1.10

According to this equation, we have E = (3.2(4.5)^1.05)*1.0 = 15.52

If the runtime performance is in the normal rating (EAF = 1.0)

Activity Network Diagram:



Risks may faced:

Risk	Solution
Our cloud server may be attacked under hackers, our customers' and restaurants' information may be stealed.	When selecting a cloud server to utilise,, we need to choose the one with the high security level. It is necessary to find a balance between the security, price and the performance.
The log in system may be crashed by a serious Denial-of-service attack.	Add a validating function to detect that the information is sent by a real person or a robot.
Drivers and online service agents may lack productivity.	We can solve this risk by increasing employee benefits and letting staff get trained before going to their work positions.
Because of the iOS update in the iPad, the application might become unavailable in the newest iOS version.	The application should also be updated with the system.
We may not be able to find enough restaurants to support the running of this application in the beginning. In better words, 13 weeks may not be long enough to gain the market of other restaurants.	If this happens, we will consider to start a marketing solution, such as ads. This is to gain the reputation and trust of restaurants as well as consumers.