Software Project Management Lab 3

SOFE3490U

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Project: UberRUSH

Estimated Effort

Function Point

Type	**Low**	**Medium**	**High**	**Function points**
External Input	3	4	**6**	6
External Output	4	**5**	7	5
External Inquiry	**3**	4	6	3
Logical Interface File	7	**10**	15	10
External Interface File	5	**7**	10	7
Total				31

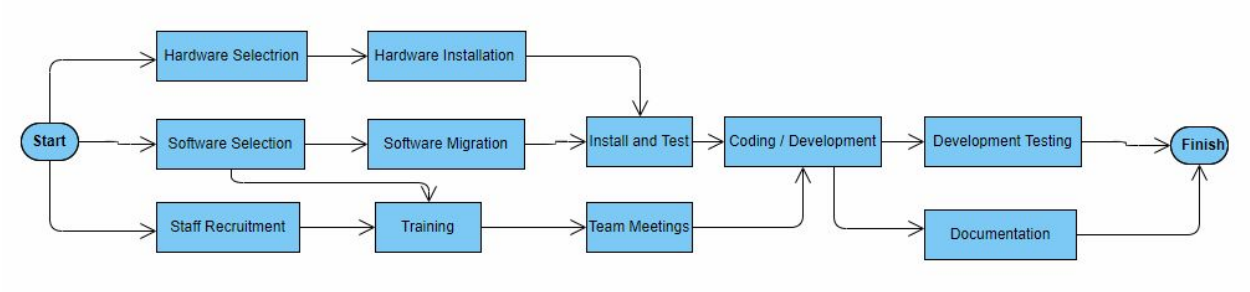
31 FP / 5 = 6.2 days

COCOMO model

The constants determined for this for a and b are 3.0 and 1.12 respectively under the assumption of the project being of type semi-detached. Given our estimation of KLOC and project requirements the estimated effort is calculated below.

- Semi-detached (a = 3.0, b = 1.12)
- KLOC = 8
- $E = a(KLOC)^b \rightarrow 3(8)^{1.12} \rightarrow 30.8$ Person-Months

Activity Diagram



Activity	Early Start (ES)	Duration	Early Finish (EF)	Late Start (LS)	Late Finish (LF)	Float
Hardware Selection	0	6	6	3	9	3
Software Selection	0	4	4	5	9	4
Staff Recruitment	0	8	8	0	8	0
Hardware Installation	6	3	9	9	12	3
Software Migration	4	3	7	9	12	5
Training	8	3	11	8	11	0
Install and Test	9	2	11	12	14	3
Team Meetings	11	3	14	11	14	0
Coding / Development	14	6	20	14	20	0
Development Testing	20	3	23	20	23	0
Documentation	20	2	22	21	23	1

Risks

- Server Downtime: The server used for software goes down and delays the software activity time or cause problems to the user of the software.
- Wrong User Interface: The user interface is not to the liking of the stakeholders, requires more time and resources to rebuild.
- Late on Activity Delivery: Estimated duration for the activity is incorrect resulting in project delays and possible delivery delay.
- Inexperienced Developers: Developers may not be experienced in certain coding languages or APIs resulting in time and resources used to train or hire new developers.
- Heavy Usage: The server may run into usage constraints based upon the amount of users accessing the application at a certain time from the same region.
- Speed and Connectivity: Due to users residing in different geographical locations connectivity and speed of communication between devices may cause usage delays for users.

Counter Measures

- Schedule needs to be flexible so that delays to the project do not delay the deployment date but not to generous as to create slack.
- Use prototypes of the software to showcase to the stakeholders what the user interface will be so that any changes can be done early according to opinions.
- Due to the possibility of inexperienced developers, teams for different sections of the will be comprised of more experienced and less experienced workers. With the use of the

tools, testing and guidance from experienced developers, teams can implement their components within the outlined timeframe.

- Due to changing usage demands, Load balancers will need to be implemented to allow for heavy traffic to be directed to different server instances to avoid applying too much stress on an server and causing a fault or time delay.
- The restrictions of speed and connectivity arise based on geographic location of the user and server. Since the application is planned to be used across different regions of the world the implementation of servers across different regions will help with usage restrictions as well connectivity and speed.