Software Project Management

Lab 3

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Part A

Since our product is relatively small in terms of features, but relies around heavy reliability and complex functionality, we feel this product falls under the category of “semidetached”. This project will require approximately three thousand lines of code.

Formula : $E = a(KLOC)^b$

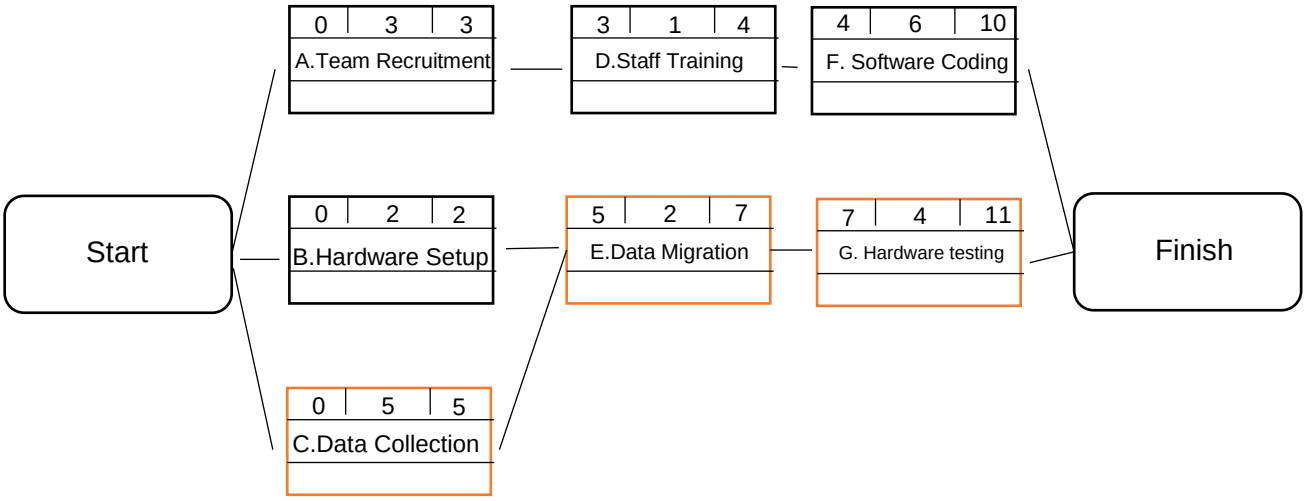
$E = (3.0)[(3)^{1.12}]$

$E = 10.27$ person months

This estimate seems reasonable as the project is relatively complex in terms of how the functions interact (gps tracking, signaling of worker, database systems, etc.).

Part B

Note: The orange outline represents the critical path



Part C

Risk	Prevention method
Employees may be not be to the level of standard needed to create a project that requires high reliability	When recruiting staff, ensure potential employee has a thorough understanding of software testing and debugging. Also ensure high quality training of employees
May under/over-estimate needed storage. Unnecessary costs to increase later or unnecessary overhead	Deep research into target demographic. If paying for hosting from server farm, choose a company which allows for scalable server sizing. If hosting own servers, ensure an accurate estimate into how many users will be using software
Gold Plating – due to low number of features, it may be tempting to add extra features if completed early	Ensure that excess time is put into debugging and testing. Excess features will probably over-complicate the device. Reliability is much more important than features in this specific case
Hardware does not function as needed	Research weaknesses of each hardware element (sensors, signal sender, casing). Perform Risk Exposure on each cost element
Software does not function as needed	Survey target demographic. Prototyping would function incredibly well for avoiding this risk. A thorough software evaluation will also help avoid this risk
Real time performance is not to required level	Cost-effectiveness breakdown of each component. Time must be allocated for code optimization to ensure code runs in minimal time.0