12 Viable Software Plan

Estimation Issues:
Estimation of resources, cost, and schedule for a software engineering effort requires: Experience, access to good historical information, the courage to commit to quantitative predictions when qualitative information is all that exists.

Estimation carries inherent risk and this risk leads to uncertainty:
- Project complexity
- Project size
- Degree of structural uncertainty

Project planning task set:
1. Establish project scope.
2. Determine feasibility
3. Analyze risks
4. Define required resources
    1. Determine required Human Resources
    2. Define reusable software resources
    3. Identify environmental resources
5. Estimate cost and effort
    1. Decompose the problem
    2. Develop two or more estimates
    3. Reconcile the estimates
6. Develop an initial project schedule
7. Repeat steps 1 to 6

What is Scope?
Software scope describes:
- Functions and features to be delivered to end users
- Data input and output
- Content presented to users of using the software
- Performance, constraints, interfaces, and reliability that bound the system

Scope is defined using one of two techniques:
- A narrative description of software scope is developed after communication with all stakeholders
- A set of use cases is developed by end users.

Problem Based Estimation:
- LOC and FP data are used in two ways during software project

estimation:
- – Variables to size each element of the software
- – As baseline metrics collected from past projects and used with other variable to develop cost and effort projections

LOC-Based Estimation: Average productivity for these systems is 620 LOC/pm

FP-Based Estimation:
For the purposes of this estimate, the complexity weighting factor is assumed to be average and the FP count total from the table is 320

Process Based Estimation:
- – Process based estimation begins with a delineation of software functions obtained from the project scope
- – A series of framework activities are performed for each function
- – Functions and related framework activities may be represented as part of table with tasks as columns and rows as functions

Schedule tracking:
Conducting periodic project status meetings in which each team member reports progress and problems
Evaluating the results of all reviews conducted throughout the software engineering process.