Scheduling Exercise

Software Engineering II
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How to develop an Initial Project Schedule

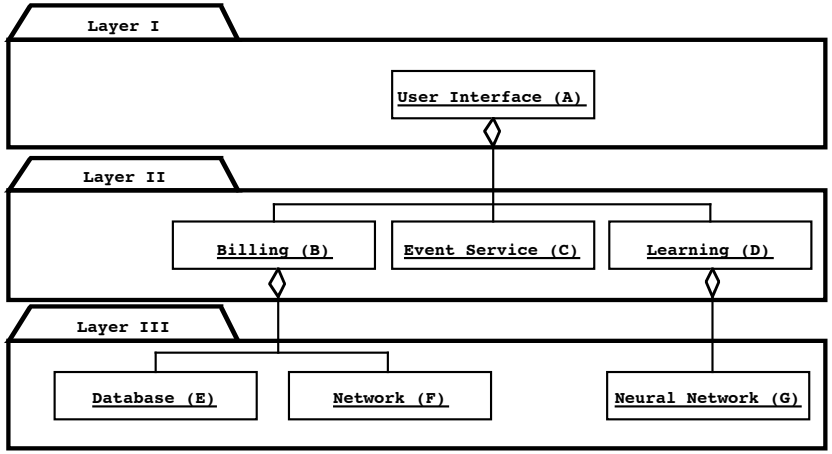
- Identify all your activities
- Identify intermediate and final dates that must be met
- Assign milestones to these dates
- Identify all activities and milestones outside your project that may affect your project's schedule
- Identify "depends on" relationships between the activities
- Establish a dependency diagram for the activities and relationships
- Determine critical paths and the slack times in non-critical paths.

Recap: Schedule for Integration Testing

Five Steps:

1. Start with system decomposition
2. Determine your integration testing strategy
3. Determine the dependency diagram
4. Add time estimates
5. Visualize the activities on a time scale: Gantt Chart.

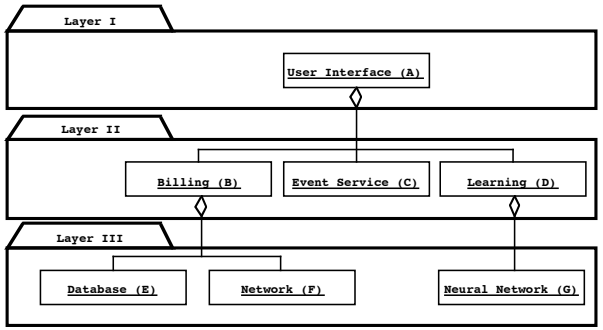
System Decomposition



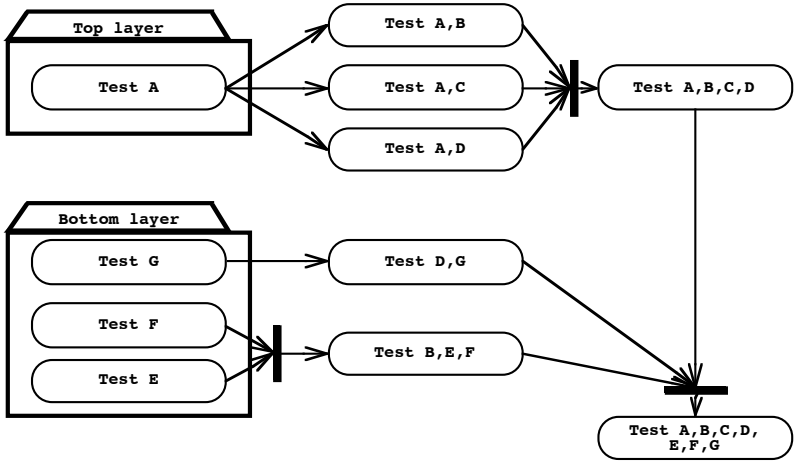
Identification of Layers

Identification of the 3 layers:

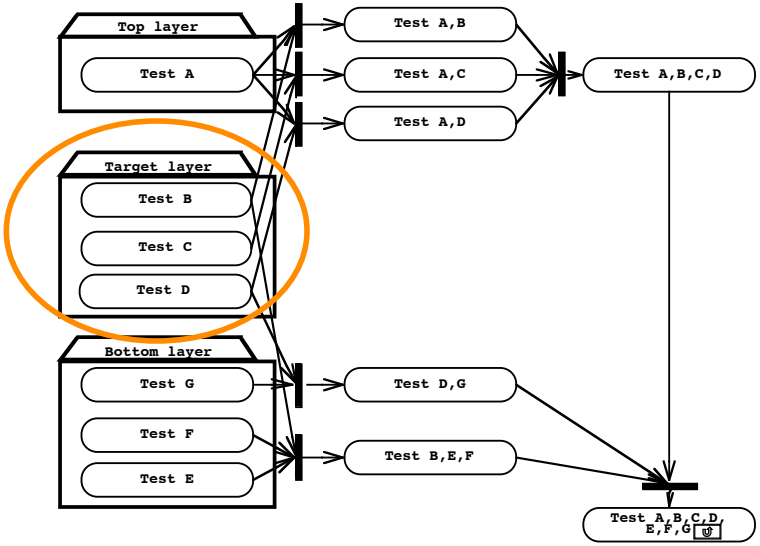
- Top layer: A
- Target layer: B, C, D
- Bottom layer: E, F, G.



Dependency Diagram for Sandwich Testing



Dependency Diagram for Modified Sandwich Testing



Install Project Management Tool

- Pick your favorite project management tool or download one and install it on your laptop

Microsoft Project: PERT, Gantt, Milestone/Gantt Charts

- Platform: Windows
- **http://www.microsoft.com/office/project/prodinfo/trial.mspx**

Merlin: PERT (called Netplan), Gantt, Milestones/Gantt Chart

- Platform: MacOS X
- http://www.projectwizards.net/en/download

Shared Plan: PERT, Gantt, Milestone/Gantt Charts

- Multiplatform: Windows, MacOS, Linux
- Compatible with Microsoft Project
- **http://www.sharedplan.com/trial.html**

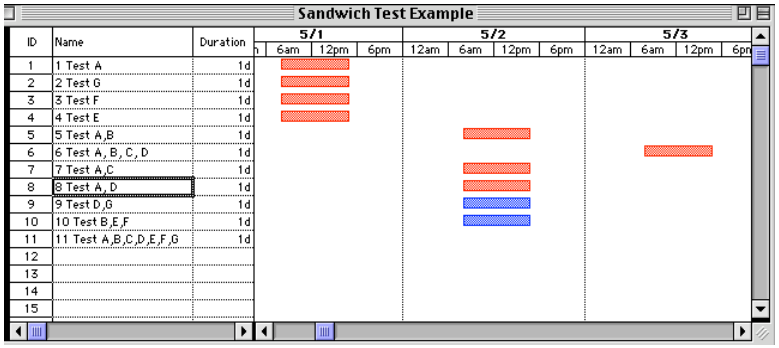
Fast Track: Gantt

- Multiplatform: Windows, MacOS, Palm
- **http://www.aecsoft.com/downloads/freedemo/**

Your Task for Today

- **Exercise 1: Sandwich Testing Strategy**
  - Enter the dependency diagram for sandwich testing
  - Add time estimates: 1 day for unit tests, 2 days for double tests, 3 days for triple tests, etc
  - Add times for writing stubs and drivers. Estimate 1/2 a day for each driver and for each stub. Justify the number of drivers and stubs
  - Visualize the schedule with a Gantt Chart
  - Determine the critical path
  - Determine the slack times for the non-critical tests
- **Exercise 2: Modified Sandwich Testing Strategy**
  - Create the schedule for Modified Sandwich Testing
  - Use Add Time Estimates as above
  - Visualize Schedule 2 with a Gantt Chart
  - Determine the critical path of Schedule 2.

Visualization of Schedule (Gantt Chart View)



Questions

- What is the difference between the 2 schedules? Use technical and managerial arguments
- Where is the critical path in each schedule?
- How does schedule 2 change the testing time?

- **Optional: include project organization (submission deadline: 21.06.06)**
  - 6 developers
  - 1 person day = 9 hours
- How does the schedule change if
  - 3 people are doing the tests
  - 6 people are doing the tests?