



Test Management Part 1

Test Schedule

Objective



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Create a test
schedule

Creation of System Test Schedule



| Creation of a ~~testing~~ schedule requires the following activities:

- ✓ - Identify all of the testing tasks to be performed
- ✓ - Identify dependencies among the testing tasks
- ✓ - Estimate the effort and resources needed to perform each task
- ✓ - Assign tasks to individuals or groups
- ✓ - Map testing tasks to a time line

Testing Tasks Examples

| Develop test plan X

| Understand requirements X

| Develop tests

exactly

| Review tests X

| Install test environment X

"work"

↓ ↓ ↓

Analyze Dependencies

| After tasks are identified, a dependency analysis among tasks must be performed

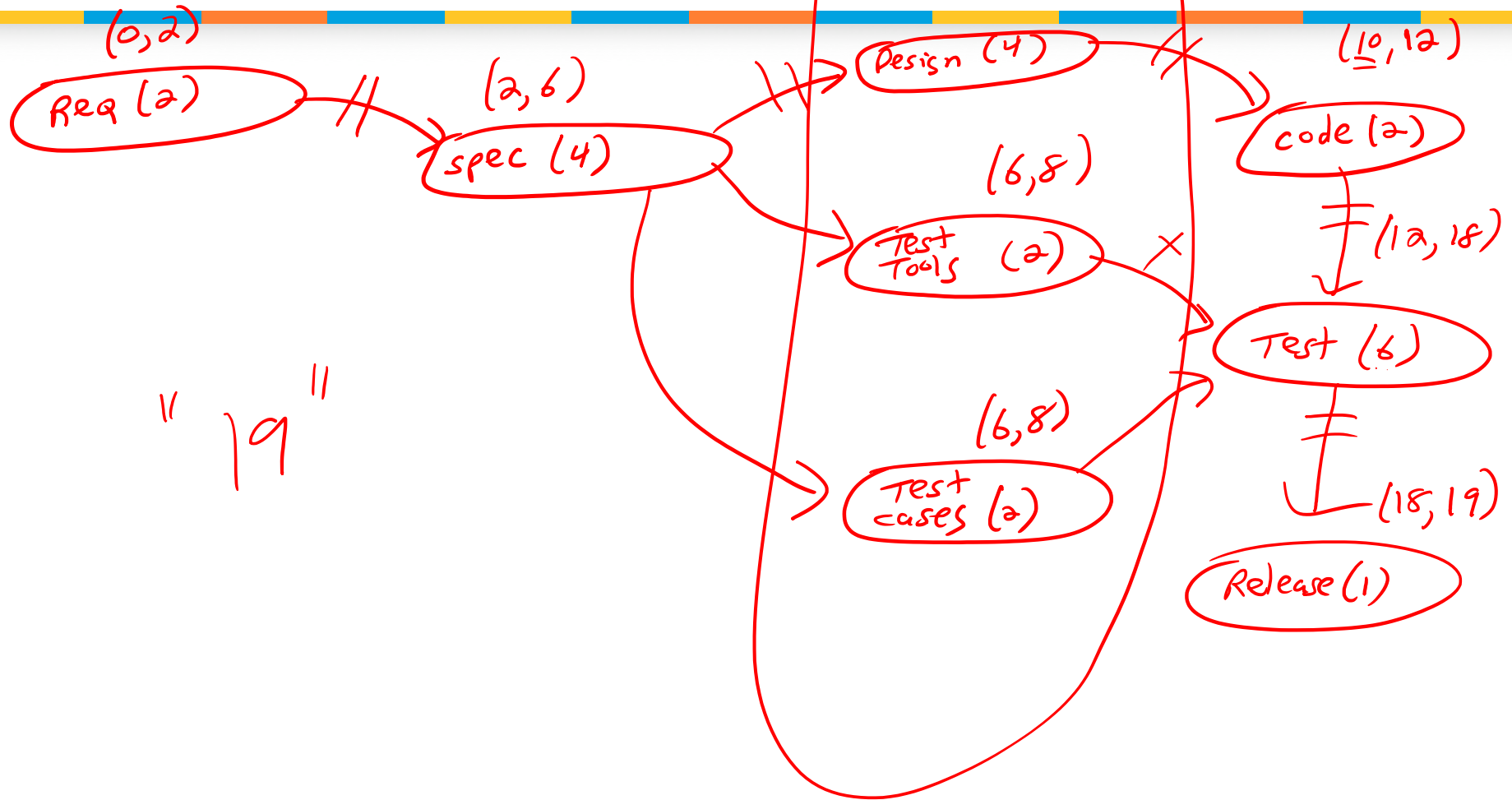
| Dependencies can be documented in a PERT Chart

| PERT (Program Evaluation and Review Technique) was developed by the Navy in the 1950's

| Chart is a network whose nodes represent project activities and their associated duration's (often calendar weeks) and whose links represent precedence relations



Example PERT Chart



Critical Path Analysis

| What is the minimum time it will take to 19 complete the project?

| What activities are critical to being able to complete the project in minimum time?

| What activities can be done in parallel?

| How long can each activity be delayed before it affects the finish date?

Critical Path Identification

| Critical path(s) is the path through the PERT chart with no slack time

| Can be identified by associating with each node, its earliest start and finish time

| Those paths where the earliest start time is always equal to the predecessor's nodes earliest finish time correspond to critical paths

Estimating System Testing Time



| A critical part of test planning is estimating the time needed to meet the testing objectives

| Overestimates lead to inefficient testing and delayed product release

| Underestimates lead to lots of overtime, high stress and probable ineffective testing

Assign Task Responsibilities

A diagram titled "Assign Task Responsibilities" showing a central vertical line with arrows pointing to two columns of text. The left column contains three items, the first and last of which are circled in red. The right column contains two items. A handwritten bracket at the top right groups the right column under the label "o Assume?".

- | Assign similar tasks to the same person

- | Minimize necessary communication

- | Match knowledge and skills to the task

- | Assign tasks to people so that they learn and grow

- | Attempt to accommodate preferences

Map Tasks to a Time Line

| Schedule must be well thought out and take into account:

- Constraints ✓
- Task dependencies ✓
- Availability of personnel ✓
- Risks

| Developing a schedule is an iterative process:

- Adjust tasks, durations, resources and sequencing

| Participants must commit to the schedule



Gantt Chart



- | Schedule can be documented in a Gantt chart

- | Gantt chart identifies duration of tasks along with their starting and ending dates

- | Gantt charts identify parallel tasks

- | Multiple Gantt charts can be developed to show various levels of detail

 - Hierarchy of Gantt charts

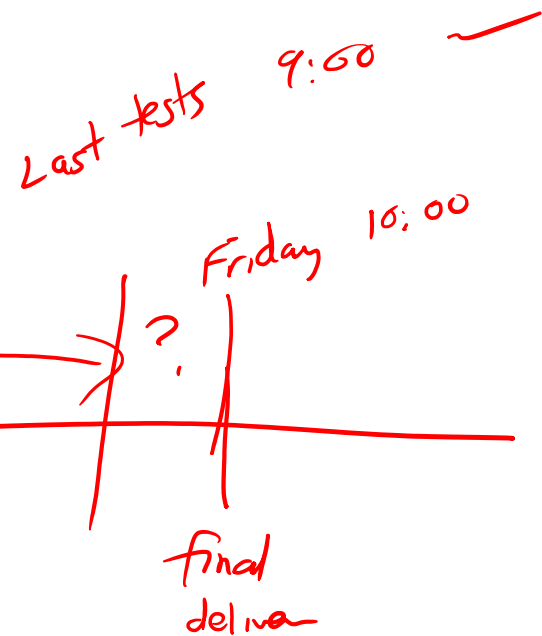
Example Gantt Chart



Schedule Buffers

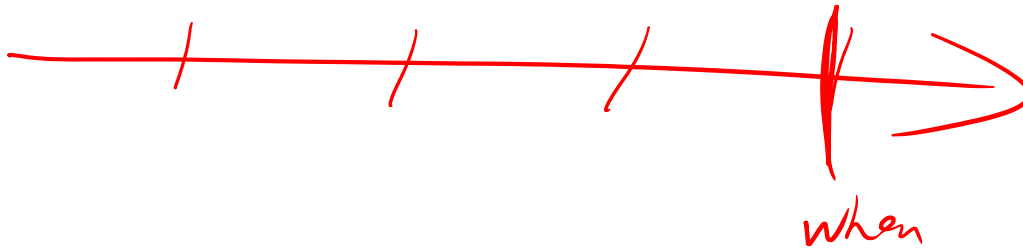
Risk management must be used to guide the team in the amount of contingency time (buffer) which must be allocated to the schedule

Schedule confidence is tied to the buffer



Summary

$L \rightarrow R$



$R \rightarrow L$

