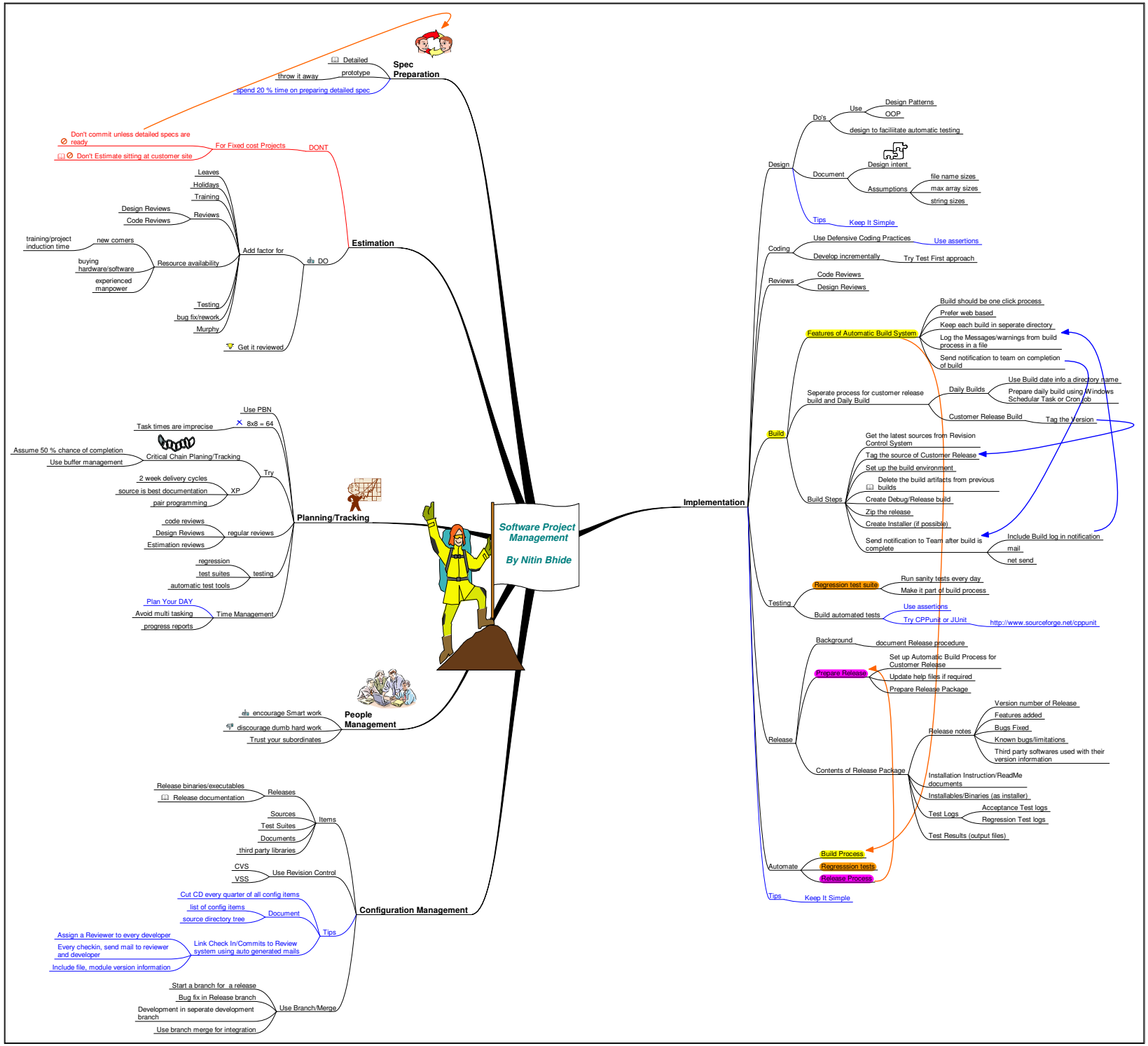
Software Project Management
By Nitin Bhide
Spec Preparation
Detailed
prototype
throw it away
spend 20 % time on preparing detailed spec
Estimation
DONT
For Fixed cost Projects
Don't commit unless detailed specs are ready
Don't Estimate sitting at customer site
DO
Add factor for
Leaves
Holidays
Training
Reviews
Design Reviews
Code Reviews
Resource availability
new comers
training/project induction time
buying hardware/software
experienced manpower
Testing
bug fix/rework
Murphy
Get it reviewed
Planning/Tracking
Use PBN
8x8 = 64
Task times are imprecise
Try
Critical Chain Planing/Tracking
Assume 50 % chance of completion
Use buffer management
XP
2 week delivery cycles
source is best documentation
pair programming
regular reviews
code reviews
Design Reviews
Estimation reviews
testing
regression
test suites
automatic test tools
Time Management
Plan Your DAY
Avoid multi tasking
progress reports
People Management
encourage Smart work
discourage dumb hard work
Trust your subordinates
Configuration Management
Releases
Release binaries/executables
Release documentation
Items
Sources
Test Suites
Documents
third party libraries
Use Revision Control
CVS
VSS
Tips
Document
Cut CD every quarter of all config items
list of config items
source directory tree
Link Check In/Commits to Review system using auto generated mails
Assign a Reviewer to every developer
Every checkin, send mail to reviewer and developer
Include file, module version information
Use Branch/Merge
Start a branch for a release
Bug fix in Release branch
Development in seperate development branch
Use branch merge for integration
Implementation
Design
Do's
Use
Design Patterns
OOP
design to facilitate automatic testing
Document
Design intent
Assumptions
file name sizes
max array sizes
string sizes
Tips
Keep It Simple
Coding
Use Defensive Coding Practices
Use assertions
Develop incrementally
Try Test First approach
Reviews
Code Reviews
Design Reviews
Build
Features of Automatic Build System
Build should be one click process
Prefer web based
Keep each build in seperate directory
Log the Messages/warnings from build process in a file
Send notification to team on completion of build
Seperate process for customer release build and Daily Build
Daily Builds
Use Build date info a directory name
Prepare daily build using Windows Schedular Task or Cron Job
Customer Release Build
Tag the Version
Build Steps
Get the latest sources from Revision Control System
Tag the source of Customer Release
Set up the build environment
Delete the build artifacts from previous builds
Create Debug/Release build
Zip the release
Create Installer (if possible)
Send notification to Team after build is complete
Include Build log in notification
mail
net send
Testing
Regression test suite
Run sanity tests every day
Make it part of build process
Build automated tests
Use assertions
Try CPPunit or JUnit
http://www.sourceforge.net/cppunit
Release
Background
document Release procedure
Prepare Release
Set up Automatic Build Process for Customer Release
Update help files if required
Prepare Release Package
Contents of Release Package
Release notes
Version number of Release
Features added
Bugs Fixed
Known bugs/limitations
Third party softwares used with their version information
Installation Instruction/ReadMe documents
Installables/Binaries (as installer)
Test Logs
Acceptance Test logs
Regression Test logs
Test Results (output files)
Automate
Build Process
Regressions tests
Release Process
Tips
Keep It Simple