Introduction
(Tue Sep 02, 2014 10:10 AM)

📄 Collaboration Exercise.ppt

📄 lecture.02Sep14.pdf

Collaboration: Pair Programming
(Thu Sep 04, 2014 10:10 AM)

Read the attached pair programming article.

"All I Really Need To Know I Learned In Kindergarten"

by Robert Fulghum, 1988

Most of what I really need
To know about how to live
And what to do and how to be
I learned in kindergarten.
Wisdom was not at the top
Of the graduate school mountain,
But there in the sandpile at Sunday school.

These are the things I learned:

Share everything.
Play fair.
Don't hit people.
Put things back where you found them.
Clean up your own mess.
Don't take things that aren't yours.
Say you're sorry when you hurt somebody.
Wash your hands before you eat.
Flush.
Warm cookies and cold milk are good for you.
Live a balanced life -
Learn some and think some
And draw and paint and sing and dance
And play and work everyday some.
Take a nap every afternoon.
When you go out into the world,
Watch out for traffic,
Hold hands and stick together.
Be aware of wonder.

📄 All I really need to know about pair programming I learned in kindergarten

📄 Collaboration Exercise.ppt

📄 lecture.04Sep14.pdf

Requirements: User Stories
(Tue Sep 09, 2014 10:10 AM)

Read Head First Software Development, ch. 1-4.

🌐 http://www.google.com/search?q=user+story+card+images

📄 lecture.09Sep14.pdf

Requirements: Use Cases
(Thu Sep 11, 2014 10:10 AM)

Read the use cases article at the attached link.

Example use case, with increasing degrees of detail:

Simple Laundry Use Case

Use Case 1	Do laundry
Actor	Housekeeper
Basic Flow	On Wednesdays, the housekeeper reports to the laundry room. She sorts the laundry that is there. Then she washes each load. She dries each load. She folds the items that need folding. She irons and hangs the items that are wrinkled. She throws away any laundry item that is irrevocably shrunken, soiled or scorched.

Middleweight Laundry Use Case

Use Case 1	Do laundry
Actor	Housekeeper
Basic Flow	On Wednesdays, the housekeeper reports to the laundry room. She sorts the laundry that is there. Then she washes each load. She dries each load. She folds the items that need folding.
Alternative Flow 1	If she notices that something is still dirty, she rewashes it. If it is still soiled, she throws it out.
Alternative Flow 2	If she notices that something is wrinkled, she irons it and then hangs it on a hanger.
Alternative Flow 3	If she notices that something shrank or is scorched, she throws it out.

Heavyweight Laundry Use Case

Use Case 1	Housekeeper does laundry
Actor	Housekeeper
Use Case Overview	It is Wednesday and there is laundry in the laundry room. The housekeeper sorts it, then proceeds to launder each load. She folds the dry laundry as she removes it from the dryer. She irons those items that need ironing.
Subject Area	Domestics
Actor(s)	The housekeeper
Trigger	Dirty laundry is transported to the laundry room on Wednesday.
Precondition 1	It is Wednesday
Precondition 2	There is laundry in the laundry room.

Basic Flow: Do Laundry

Description	This scenario describes the situation where only sorting, washing and folding are required. This is the main success scenario.
1	Housekeeper sorts laundry items.
2	Housekeeper washes each load.
3	Housekeeper dries each load.
4	Housekeeper verifies that laundry item does not need ironing, is clean and not shrunken.
5	Housekeeper verifies that laundry item is foldable.
6	Housekeeper folds laundry item
7	Housekeeper does this until there are no more laundry items to fold
Termination	

outcome Laundry is clean and folded

Alternative Flow 4A: Laundry item needs ironing.

Description This scenario describes the situation where one or more items need ironing before or in lieu of folding

4A1 Housekeeper verifies that the laundry item needs ironing and is clean and not shrunken

4A2 Housekeeper irons the laundry item

4A3 Housekeeper puts laundry item on a hanger

Termination outcome Laundry that needs ironing is ironed and hung up.

Alternative flow 4B: Laundry item is dirty.

Description This scenario describes the situation where the laundry item did not get clean the first time through the wash.

4B1 Housekeeper verifies that the laundry item is not clean.

4B2 Housekeeper rewashes the laundry item

Termination outcome Dirty laundry is rewashed.

Alternative flow 4C: Laundry item shrank.

Description This scenario describes the situation where the laundry item shrank.

4C1 Housekeeper verifies that the laundry item shrank

4C2 Housekeeper disposes of laundry item.

Termination outcome Laundry item no longer exists.

Alternative flow 5A: Laundry item needs hanger.

Description This scenario describes the situation where the laundry item needs to be hung instead of folded.

5A1 Housekeeper verifies that laundry item needs hanging.

5A2 Housekeeper puts laundry item on a hanger.

Termination outcome Laundry that needs hanging is hung up.

Post conditions: All laundry clean and folded or hung up.

Business Rules:

- Laundry can only be done on Wednesdays.
- All ironed laundry items get hung on hangers
- Any laundry item that is irrevocably soiled, shrunken, scorched, etc. , gets thrown out.

 Use Case Examples -- Effective Samples and Tips

 https://www.google.com/search?q=use+case+diagrams+images

 lecture.11Sep14.pdf

Testing: TDD Overview
(Tue Sep 16, 2014 10:10 AM)

Read TDD By Example, Part I ch 1-17 (these chapters are very short, and its ok to just skim).

Read Ron Patton, Software Testing (2nd ed), ch. 4-5 - attached, you do not need to get the book.

The preliminary assignment from last year is attached because it may be used as an example, you do <u>not</u> need to do it as homework.

Heavyweight Laundry Use Case

Use Case 1 Housekeeper does laundry

Actor Housekeeper

Use Case Overview It is Wednesday and there is laundry in the laundry room. The housekeeper sorts it, then proceeds to launder each load. She folds the dry laundry as she removes it from the dryer. She irons those items that need ironing.

Subject Area Domestics

Actor(s) The housekeeper

Trigger Dirty laundry is transported to the laundry room on Wednesday.

Precondition 1 It is Wednesday

Precondition 2 There is laundry in the laundry room.

Basic Flow: Do Laundry

Description	This scenario describes the situation where only sorting, washing and folding are required. This is the main success scenario.
1	Housekeeper sorts laundry items.
2	Housekeeper washes each load.
3	Housekeeper dries each load.
4	Housekeeper verifies that laundry item does not need ironing, is clean and not shrunken.
5	Housekeeper verifies that laundry item is foldable.
6	Housekeeper folds laundry item
7	Housekeeper does this until there are no more laundry items to fold
Termination outcome	Laundry is clean and folded

Alternative Flow 4A: Laundry item needs ironing.

Description	This scenario describes the situation where one or more items need ironing before or in lieu of folding
4A1	Housekeeper verifies that the laundry item needs ironing and is clean and not shrunken
4A2	Housekeeper irons the laundry item
4A3	Housekeeper puts laundry item on a hanger
Termination outcome	Laundry that needs ironing is ironed and hung up.

Alternative flow 4B: Laundry item is dirty.

Description	This scenario describes the situation where the laundry item did not get clean the first time through the wash.
4B1	Housekeeper verifies that the laundry item is not clean.
4B2	Housekeeper rewashes the laundry item
Termination outcome	Dirty laundry is rewashed.

Alternative flow 4C: Laundry item shrank.

Description	This scenario describes the situation where the laundry item shrank.
4C1	Housekeeper verifies that the laundry item shrank
4C2	Housekeeper disposes of laundry item.
Termination outcome	Laundry item no longer exists.

Alternative flow 5A: Laundry item needs hanger.

Description	This scenario describes the situation where the laundry item needs to be hung instead of folded.
5A1	Housekeeper verifies that laundry item needs hanging.
5A2	Housekeeper puts laundry item on a hanger.
Termination outcome	Laundry that needs hanging is hung up.

Post conditions: All laundry clean and folded or hung up.

Business Rules:

- Laundry can only be done on Wednesdays.
- All ironed laundry items get hung on hangers
- Any laundry item that is irrevocably soiled, shrunken, scorched, etc. , gets thrown out.

[Ron Patton, Software Testing (2nd ed), chapter 4](#)

[Ron Patton, Software Testing (2nd ed), chapter 5](#)

[lecture.16Sep14.pdf](#)

Testing: Equivalence Partitions and Boundary Analysis
(Thu Sep 18, 2014 10:10 AM)

[lecture.18Sep14.pdf](#)

Design: Introduction to Design Patterns
(Tue Sep 23, 2014 10:10 AM)

Read Head First Software Development, ch. 5-6.5.

Read Head First Design Patterns, entire book (between now and first exam).

[icon] MVC music video

[icon] programming.html

[icon] https://www.google.com/search?q=duck+image

[icon] lecture.23Sep14.pdf

Design: More Design Patterns
(Thu Sep 25, 2014 10:10 AM)

[icon] lecture.25Sep14.pdf

Design: Creational Design Patterns
(Tue Sep 30, 2014 10:10 AM)

[icon] Lady Java music video

[icon] lecture.30Sep14.pdf

Design Diagrams
(Thu Oct 02, 2014 10:10 AM)

Read Head First Software Development, both appendices.

The attached class and sequence diagram articles.

Remember that the first exam will assume you have completed all the assigned reading, whether or not the corresponding material was covered in class.

Previously assigned includes:

Head First Software Development, ch. 1-5 (and 6-6.5, but those chapters won't be covered until the second exam).

Head First Design Patterns, entire book.

Attached pair programming and use case articles.

Attached Ron Patton Software Testing chapters.

[icon] All I really need to know about pair programming I learned in kindergarten

[icon] Use Case Examples -- Effective Samples and Tips

[icon] Class Diagrams images

[icon] Sequence Diagrams images

[icon] UML basics: The class diagram

[icon] UML basics: The sequence diagram

[icon] Ron Patton, Software Testing (2nd ed), chapter 4

[icon] Ron Patton, Software Testing (2nd ed), chapter 5

[icon] lecture.02Oct14.pdf

Software Process
(Tue Oct 07, 2014 10:10 AM)

Read Head First Software Development, ch. 7-12.

Read *Managing the Development of Large Software Systems* (attached)

Managing the Development of Large Software Systems

Rules of Extreme Programming

lecture.07Oct14.pdf

Project Planning, mini-review
(Thu Oct 09, 2014 10:10 AM)

lecture.09Oct14.pdf

Review
(Tue Oct 14, 2014 10:10 AM)

Read Head First Software Development, both appendices.

lecture.14Oct14.pdf

First Exam
(Thu Oct 16, 2014 10:10 AM)

Sample First Exam (from 2012)

Coding Practices
(Tue Oct 21, 2014 10:10 AM)

Read Head First Software Development ch. 6-12.

Read the attached articles about coding.

How to Write Completely Unreadable Code

How To Write Unmaintainable Code

How to write insecure code

Top 10 Secure Coding Practices

lecture.21Oct14.pdf

Code Inspection
(Thu Oct 23, 2014 10:10 AM)

Read Fagan's article about code inspection (attached).

Michael E. Fagan, Advances in Software Inspections

Generic Code Review Checklist

Java checklist

Python checklist

Ruby checklist

lecture.23Oct14.pdf

Software Process, revisited
(Tue Oct 28, 2014 10:10 AM)

Read Head First Software Development, underline entire book (if you haven't already).

ScrumMaster Checklist

ScrumReferenceCard.pdf

lecture.28Oct14.pdf

Testing Coverage and Stress Testing
(Thu Oct 30, 2014 10:10 AM)

Read Ron Patton, Software Testing (2nd ed), ch. 6-7 - attached, you do not need to get the book.

Read TDD By Example, Part II ch 18-24 and Part III ch 25-32 (these chapters are very short, and its ok to just skim).

[Ron Patton, Software Testing (2nd ed), chapter 6](#)
[Ron Patton, Software Testing (2nd ed), chapter 7](#)
[http://www.bullseye.com/coverage.html](#)
[lecture.30Oct14.pdf](#)

ACADEMIC HOLIDAY
(Tue Nov 04, 2014 12:00 AM)

Metamorphic Testing
(Thu Nov 06, 2014 10:10 AM)

[cucs-020-12.pdf](#)
[cucs-022-13.pdf](#)
[http://blog.codeclimate.com/blog/2014/04/01/launching-today-automated-refactoring/](#)
[https://www.youtube.com/watch?v=PUCy4PLNXJk](#)
[1 2 3 Testing](#)
[Refactoring Tips by Martin Fowler](#)
[lecture.06Nov14.pdf](#)

Demos
(Tue Nov 11, 2014 10:10 AM)

C+++	Error404	WabService

Demos
(Thu Nov 13, 2014 10:10 AM)

Team Jaws	Dream Team	Squad

Demos
(Tue Nov 18, 2014 10:10 AM)

Team OBO	Software PVT	Dermalog

Demos
(Thu Nov 20, 2014 10:10 AM)

Stock Twitter	Wavelet	

Guest Lecture: Jonathan Bell
(Tue Nov 25, 2014 10:10 AM)

[PDF] oopsla2014-phosphor-small.pdf

[PDF] Test Acceleration & dependencies VMVM_EC.pdf

ACADEMIC HOLIDAY
(Thu Nov 27, 2014 10:10 AM)

Review
(Tue Dec 02, 2014 10:10 AM)

Remember that the second exam will assume you have completed all the assigned reading, whether or not the corresponding material was covered in class.

Since the first exam covered Head First Software Development ch. 1-5 and the entire Head First Design Patterns book, the second exam will cover Head First Software Development ch. 6-12 PLUS all the external readings since the first exam.

[PDF] lecture.02Dec14.pdf

Second Exam
(Thu Dec 04, 2014 10:10 AM)

[doc] Sample Second Exam (from 2012)

NO EXAM DURING FINALS WEEK
(Tue Dec 16, 2014 09:00 AM - 12:00 PM)

However, there will be a final demo and final report due during finals week.