**2016**
**Software Product Definition**
Carnegie Mellon Silicon Valley
Syllabus


Software Product Definition (SPD) is a seven week course during which students:

- identify a business problem that can be addressed (in part) by software technology
- elicit and model user and customer requirements
- develop a vision for a new product or service that addresses the problem, including both the software system that is the central focus of product development and the "whole product" required to provide a complete solution to address the customer's problem
- develop a business vision of how the product will contribute to achieving the goals of the company considering its development
- document the vision in a product vision document
- produce a document and presentation describing the features and requirements, both functional and non-functional, for their envisioned product.

The course work includes applying a variety of requirements elicitation and analysis techniques, writing reports, and preparing supporting material – all while working as a member of a high-performing team.

**Learning Objectives**

- Students will learn to identify problems for which a solution would be beneficial to a significant number of people
- Students will be able to use contextual inquiry and work modeling techniques from Contextual Design to understand organizational culture, information flows, work sequences, and problems therein
- Students will be able to define and apply personas, goals, and scenarios to envision a high-quality user experience with a proposed new system
- Students will be able to derive key functional, data, technical, and business requirements from scenarios
- Students will be able to define the whole product required to provide a complete solution, systematically, from a customer's point of view
- Students will be able to define a business vision that explains how product development will contribute to achieving the goals of the customers and end users.
- Students will be able to write clear and compelling product development artifacts
- Students will be able to interact persuasively with management to "sell" their ideas.

**Instructor:** Sheryl Root
     Office:      Carnegie Mellon Silicon Valley, Room 122
     Phone:      contact by email to create appointments
     E-mail:      *sheryl.root@sv.cmu.edu*
   Office hours:      By appointment (in person or by skype/phone)


**Meeting Time:**      Tuesday, 5:30-9:30 PM
     Students should be prepared for class discussion, having done the
     assigned readings and task assignments

**Textbooks**
     **Required:**

     Blank and Korf, ***The Startup Owner's Manual***

     Wiegers, ***Software Requirements***, 3rd edition


     **Recommended:**
     *Business Model Generation*, Osterwalder and Pigneur. 2010

     **Reference:**

     *Rapid Contextual Design,* Holtzblatt, Burns, Wood. 2004. This is an
     excellent text to support the class activities. Perhaps to manage costs,
     each team should have at least one copy to share.

     **Readings:**

     "How to Analyze a Case" HBR, 2007 (to be supplied)

     "How to Discuss a Case" HBR, 2007 (to be supplied)

***Course Web Site:***

**Grading:**

Student performance in the class will be evaluated based on the following
components:

| | | |
|---|---|---|
| Task 1 | 10% | Due Saturday, 10pm, Sept 10 |
| Task 2 | 20% | Due Saturday, 10pm, Sept 17 |
| Task 3 (individual) | 20% | Due Saturday, 10pm, Sept 24 |

| | | |
|---|---|---|
| Task 4(individual) | 20% | Due Saturday, 10pm, Oct 1 |
| Task 5 Presentation | 20% | Due Tuesday, Oct 11 |
| Task 5 Document | | Due Saturday, 10pm, Oct 15 |
| Class Participation | 10% | |
| | 100% | |

**Assignments**

All assignments are due at the time specified in the assignment and shall be submitted to sherylr@rootanalysis.com or sheryl.root@sv.cmu.edu . If you need an extension on an assignment, you should request the extension at least 48 hours in advance. Late submissions without an approved extension may be penalized. All assignments are graded by the instructor.

**Deliverable Submission Method**

**Each week's deliverables are due on Saturday before 10:00 PM PT.**

*Note that reviews of complete drafts will rarely be possible due to the quick completion time (often, 1 week). Therefore, it is your responsibility to ensure that these work products, whether by individual or team, meet faculty expectations, as explained in the weekly guidance.* **Always proofread carefully.**

All deliverables should be submitted as word documents. No exceptions.

*Please* use this standard format for naming the file: CMU SPD 2016 TeamName-WorkProductName (for team work products) and CMU SPD 2016 YourName-WorkProductName (for individual work products).

Be certain (during final proofreading) that each document has an identifying heading (team or individual name, work product or final deliverable name, date of submission) and a page-numbered footing.

**Exams: None**

**Course Policies**

*Class Meetings*:
While attendance will not be taken, it is in your interest to attend each class meeting. Class participation is encouraged and expected. Please be on time for class

and refrain from using mobile devices and laptops during class other than as needed for the class itself.

*Academic Honesty and Integrity:*
All CMU students are expected to follow the ethical guidelines and adhere to the policies as defined in your Program's Student Handbook or in any other source describing such policies as they apply to students at Carnegie Mellon University. These policies and guidelines are available on the CMU web site.  Please read them carefully!  You will be held accountable for any violations of these guidelines and policies.

**Course Logistics**

The entire class will be run using the course website at http://sm.sv.cmu.edu/spd

# Preparation for weekly class sessions

- **The basics**
    1. Your attendance at weekly class sessions is requested every week.
        - Part-time SM students will attend on Tuesday nights from 5:30-9:30 PM;
        - AdobeConnect: http://cmusv.adobeconnect.com/ob-root/
- **On Campus (part-time students)**
    - Location: Room 212
    - Speak slowly and with enough volume so that everyone in the room and on the telephone can understand your comments.
    - Say your name when you start speaking.
- **Off Campus (part-time students)**
    - Log in to AdobeConnect *before* class. In case there are remote issues with AdobeConnect the following is provided:

        - U.S. call-in number:        1-888-346-3950 / 43418776#

        - International call-in number:        +1-720-362-6174 / 43418776#
        - For information: http://support.infiniteconferencing.com/ is a good reference if you have problems using this service.
        - *6 is a toggle that mutes and unmutes your phone. *Please* use this if you don't have a mute button on your phone! Otherwise, if your connection is noisy you may be asked to disconnect from the session.
        - AdobeConnect: https://cmusv.adobeconnect.com/_a829716469/ob-root

- o Use the chat window in AdobeConnect if you need to communicate something that doesn't require an oral comment. Use the "raise your hand" feature if you're having difficulty getting the "space" to make your comment in the discussion.
- **All students**
  - o Respect the faculty and your classmates by arriving on time and giving full attention to the class discussion and any presentations for that week. *For example, please do not attempt to process email or work on other tasks while in class.*
  - o Part of your grade is the *quality* of your individual participation in the class discussions. Optimize your "information density" (i.e., be brief, articulate, and insightful). If you've already spoken, give others a chance to contribute.

## Class Schedule (PT 4 hrs./1day)

| Date | Topic |
|---|---|
| Aug 29 | Intro to SPD – Visioning Great Products<br>Visioning, Auto purchase case, Identification of problem<br>Readings: Chapter 1 SOM<br>Team formation on selected problems to be addressed<br>------------------------------------- |
| Sept 6 | Theme:  Innovation and Market Readiness<br>Problem Statement, Market/External analysis<br>Readings: Chapter 2 SOM<br>Suggestions: *Crossing the Chasm,* Chapters 1-3<br><br>Task 1 Deliverable:  Problem Statement, Initial Product Solution/proposal<br>------------------------------------------------ |
| Sept 13 | Discussion:  Interview Questions<br>Theme:  Interviewing, Pivoting, Team Readiness<br>Readings: SOM, Chapters 3-5<br>Suggested:  RCD, Interview Techniques<br>Task 2: Interview Questions<br><br>-----------------------------------------<br>Theme:  Affinity Diagrams and "Hot Ideas"<br>Analysis of interview findings and problem clarity<br>Interviews and Transcripts Analysis, Personas<br>Readings:  SOM, Chapters 6-8<br>Suggested:  RCD, Chapter 5 |
| Sept. 20 | Task 3 Deliverable:  Individual Transcripts, Personas |

Sept 27         (Transcripts and Personas are Individually done, not as a
                team)
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                Discussion: Creation of Scenarios
                Suggested:  RCD, Chapters 6-9

                Deliverable:  Task 4 = Scenarios/User Workflow/Model
                Scenarios are individually done
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                Theme:  Building a Unique Product Vision
                Elements of Vision/Plan
                High level requirements and features, unique product vision
Oct 4


                Readings: TBD
                Suggested:  RCD, Chapters 10-11


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                Business & Product Vision Document
                Readings:  BMG chapters on Business Models and examples
                Suggested:  Good to Great, Chapters 1,3,5, 9

Oct. 11         Task 5 Deliverable:  Business Vision Document

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