

Product Definition and Validation (49-792)

Carnegie Mellon Silicon Valley

Syllabus

Product Definition and Validation (PDV) is a semester-long 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. The course covers much of the same material as the mini-length Software Product Definition (49-787) and Requirements Analysis courses (49-788) courses, but with less depth of coverage.

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: Tony Wasserman
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Office hours: By appointment (in person or by phone)

Idea Workshop: Sheryl Root
E-mail: sheryl.root@sv.cmu.edu , sherylr@rootanalysis.com
 Skype: sheryl.root1
Office hours: By appointment in person or by skype

Meeting Time: Tuesday and Thursday, 12 Noon - 1:20 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
 Wieggers, Software Requirements, 3rd edition

Course Web Site: <http://sm.sv.cmu.edu/pdv>

Grading:

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

Task 0	2%
Task 1	8%
Task 2	20%
Task 3	20%
Task 4	20%
Task 5	20%
Class Participation	10%
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	100%

Assignments

All assignments are due at the time specified in the assignment and shall be submitted to Prof. Wasserman by email to tonyw@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.

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.

Class meetings are recorded and will be available for subsequent listening. However, listening to the recording should not be seen as being equivalent to class attendance.

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/pdv>

Class Schedule

Date	Topic
Aug 26	Introduction to PDV – Course Overview Auto Purchase assignment Identification of potential problems/opportunities Market/External analysis – research methods
Aug 29-31	Visioning Business Model Discussion Identification of potential problems/opportunities Problem selection – refine problem statements

	<p>Team formations around selected problems Readings: Chapter 1 SOM</p>
Sept. 6-8	<p>Strategy/leadership discussion GQM discussion Refinement of problem statement Interviewing process</p> <p>Readings: Chapter 2 SOM Suggested: Interviewing Techniques, RCD</p>
Sept. 13-15	<p>Problem Statement Market Analysis Readings: Chapters 3-5 SOM Assignment: Task 1 – Problem Statement, Potential Solution</p>
Sept. 20-22	<p>Product Solution/proposal Interview Questions, Interview techniques</p> <p>Readings: Chapters 6-8 SOM Suggested: Chapter 5, RCD Assignment: Task 2 – Interview Questions, Schedule</p>
Sept. 27-29	<p>Interviews and transcripts Analysis of transcripts Readings: SOM</p>
Oct. 4-6	<p>Personas and scenarios Suggested Readings: RCD Chapters 6-9 Assignment: Task 3 – Personas</p>
Oct. 11-13	<p>User workflows/model High level requirements and features Readings: Assignment: Task 4 – Scenarios/User workflow/model</p>
Oct. 18-20	<p>Business vision document – Task 5</p>
Oct. 25-27	<p>Intro to Requirements Readings: Wiegers, Chaps. 1-2, Cockburn, Chap. 1</p>
Nov. 1-3	<p>Storyboarding</p>

	Requirements Tools Readings: Cockburn, Chaps., "Storyboarding" paper
Nov. 8-10	Requirements validation User requirements documents, use case modeling
Nov. 15-17	Non-functional requirements
Nov 22-24	Competitive analysis Nov. 24 – No class – Thanksgiving Holiday
Nov 29-Dec. 1	Requirements tuning Initial product roadmap Go/NoGo decision
Dec. 6-8	Final presentations