Practices in Product Management - Detailed Course Plan

Class 1 - Course Introduction 9/28/2018

We'll do three things. First, we'll use an example to consider the attributes of great and flawed software products. Next, we will discuss the course's learning objectives, structure, and requirements. Finally, students will briefly describe their projects, and organize in teams. Ideally teams will form via slack before the first class.

Students should come prepared with an idea they want to execute. Feel free to post your idea in Slack to recruit.

Required Reading
1. The Product Manager (available for download, request a copy).
2. A Product Manager's Job - Josh Elman
3. Product Manager, You Are... A Janitor, Essentially - Mat Balez
4. Visit the Product Management reading list. Scan the contents so you know what's available when you might be looking for resources in the future. Note that there are other reading lists on the right of the page that might be useful to you, e.g., on product design, lean startup practices, launch marketing, etc.

Recommended Reading
1. Terrific books that provide an overview of the product manager role:
   - Inspired by Marty Cagan
   - Shipping Greatness by Chris Vander Mey
   - Cracking the PM Interview by Gayle McDowell & Jackie Bavaro
2. Good posts on the PM role:
   - How to Hire a Product Manager - Ken Norton
   - Four Mistakes New Product Managers Make - Matt Schnitt
   - Be a Great Product Leader - Adam Nash

Pre-Assignment - BEFORE CLASS 1 Due 9/28/2018
1. Individuals: prepare to present a 90 second pitch (no slides necessary) describing: a) your target customer; b) the unmet customer needs you will address; c) the differentiated solutions you are exploring to meet those needs; and d) the status of your venture (how long you've been working on it, what work you've completed, etc.). Remember you can post your pitch on the class Slack in the #general channel.
2. Individual: Develop a list of the attributes of excellent software products. Then, apply that list to one of the following products:
   a. Pokémon GO - Android or iOS
   b. DuoLingo - Web, Android or IOS
   c. Venmo - Web, Android or iOS
   d. Amazon.com - Web, Android or IOS
   e. Sketch your improvement ideas. Upload photos on canvas by 9/19/2017

Assignment - After Class 1 Due 10/4/2018 (Individual)
1. Review our outline for an MRD. What do see as the pros and cons of preparing an MRD?
2. Read the MRD that Devon Barrett, Britt Zaffir and Arielle Pensler wrote in HBS PM101 for a new dating application. Does the MRD provide the information you'd need to determine whether to proceed with development? Can you think of ways to improve the MRD, in particular, additional research that could be conducted? What questions would you pose to interviewees if you were researching this concept?
3. Read this vision statement and hypotheses about unmet customer needs developed in PM101 in 2014 for Beauty on Demand by Dina Burkittbayeva and Riya Khilnani.
4. Upload by 10/4/2018 an MVP test that the Beauty on Demand team could use to gauge demand for solutions that address the unmet needs BEFORE they build any software. Upload your sample test description in Canvas.
Class 2 - The MRD & Customer Discovery 10/5/2018

Required Readings
1. Notes on Early Customer Research and refresher on MVP Testing
2. Seven Lessons I Learned from Dinnr's Failure by Michal Bohanes (focus only on Lesson #1; you can skim/skip the rest)
3. How to Find Early Adopters by Brant Cooper
4. 12 Tips for Early Customer Development Interviews by Giff Constable
6. Case Study: Customer Survey Questions by LIFFFT
7. An MVP is Not a Cheaper Product, It's About Smart Learning by Steve Blank

Recommended Reading
1. Terrific books on how to conduct early customer research:
   ■ Lean Customer Development by Cindy Alvarez.
   ■ Observing the User Experience by Goodman et al.
2. Assessing Product Opportunities by Marty Cagan
3. Survey Monkey White Paper on Survey Design
4. Using Surveys to Validate Key Startup Decisions by Brent Chudoba
5. How to Structure Customer Development Interviews by Jason Evanish
6. How to Find and Interview Potential Customers by Elizabeth Yin
7. Doing Market Research with Google's Keyword Tool by Andrew Chen
8. Terrific collection of "How to/Why to" articles on many aspects of user-centered design by John Zeratsky
9. Additional reading lists on early customer research techniques and MVP testing from Prof. Eisenmann's blog

Assignment - Due 10/11/2018
Upload in Canvas:

■ One primary persona for your application. We know that most of you haven't finished the customer research needed to develop personas; consider this a draft and do your best, even if you have completed little customer research.
■ The top three questions, with the EXACT wording that you'd use, that you'd pose to an interviewee who matches your persona type.
■ Please complete this exercise individually, not as a team. If your team has already met to discuss target customer segments and interview questions, it's fine to build on team's work.
■ Be prepared to display your work to a classmate on a laptop/tablet.
■ Your customer research plan is due 10/5
Class 3 - Customer Research & Customer Interview Workshop
10-12-2018

Guest Instructor: TBD

Required Reading
1. Ten Things I've Learned by Cindy Alvarez
2. Ten Tech Concepts Everyone Should Know - Benjy Weinberger
3. MVC (model-view-controller) for Noobs (Read until "Ok, but Why a Framework?")
4. Cloud Computing (in Plain English) - YouTube
5. The Cloud: a short introduction - Jon Stokes
7. The Mobile Web vs. Native App Debate - Drew Engelson

Recommended Reading
1. Improve Your Startup's Surveys and Get Even Better Data by Elizabeth Farrell-Nunge
3. How to Listen to Customers by Ken Norton
4. Key Computer Science Concepts - pp. 281-289 from Gayle Laakmann McDowell & Jackie Bavaro's Cracking the PM Interview (distributed with the author's permission; please do not share further)
5. Why are databases hard to scale - Quora

The below is a list of technical concepts a web-tech PM should understand
- The MVC model
- Relational databases & Tech Glossary
- HTML, CSS, Javascript (the differences)
- The life of a web request - What happens when you type something into your browser and hit enter?
- Some more advanced Computer Science concepts include linked lists, hash tables, recursion, graphs/trees, machine learning, and compression. You should be able to explain these concepts in basic terms and know when an engineer might use them. See recommended reading #2 for some background on these concepts.

Team Assignment Due 10/18/2018

By now, your teams should be narrowing down your product’s persona(s) and customer research plan. Some of you have already started your research. Use this Google Slides template to create a presentation that includes:
1. A vision statement for your app
2. A description of one primary persona for your product
3. Your hypotheses regarding that user story & persona’s unmet needs
4. A summary of evidence you have collected to date (if any) to formulate and validate these hypotheses
5. A summary of additional research you will conduct to address the hypotheses
6. The top three questions you would ask an interviewee who matched your persona profile, to understand their unmet needs.

Team Assignment Due 10/25/2018

1. Using the MVC model, write a one-pager describing the technology implementation of your app. Will your mobile solution be a mobile web app or a native app? Both? Why? If you would like feedback on your MVC, post a link to this one-pager in the Assignment Master tab for 10/24 by 5:00pm
2. Two+ weeks notice! Your team’s MRD is due by 5:00pm, Nov 1. Please base your work on your MRD template.
   - Use Google Docs to create your MRD. Post a link in Canvas
   - If you’d like to see past PM101 MRDs, WesTrek Organizer (Claire Belmont, Nonso Maduka) and InstaGogo (Richard Chua, Claudia Kolonas, Carol Rego, Ananya Kejriwal) are good examples. Note that these MRDs do not include all headers in our template because we have updated the current template format.
Class 4 - Design 10-19-2018

Required Reading
1. Notes on UX Design
2. (diagram) The Elements of User Experience by Jesse James Garrett
3. (article) User Experience Design by Peter Morville
4. (article) A Bias for Making by Jared Spool
5. (article) The Fundamentals of Experience Design by Stephen P. Anderson
6. (poster) Designing The User Experience by UPA
7. (article) Example UX Docs and Deliverables by UX for the masses
8. (website) What is a storyboard by MIT

Recommended Reading
1. Terrific books that cover core principles of user experience design:
   ■ The Design of Everyday Things by Donald Norman
   ■ Hooked by Nir Eyal
2. Wireframing Your Web Application by Nathan Barry

Team Assignment - Wireframes due by 10/25/2018
Now that we’ve started to explore your app’s potential personas, let’s explore their stories. Think about 1-2 user stories for your primary persona(s). What steps is the user currently taking and how would these steps change with your new solution. What tech would your solution require for your solution to work? Finally, what would this new user experience look like?

1. Wireframes: Working on paper, quickly sketch some initial user BEFORE and AFTER storyboards for 1-2 scenarios for your primary persona. Stick figures are OK!
2. Create a content model that your solution will require (refer to #7 in required reading)
3. Using either paper or a tool such as Balsamiq, InVision, MarvelApp or Google Slides, create at least one, or if time allows a few, low-fidelity wireframe drawings showing key screens of the app. Strongly consider building out your full Minimum viable product screenflow. Examples in class to help.
   a. Consider how your user(s) would step through tasks using the app and what elements need to be shown to understand their current task, options for next steps, and how they might back out of what they’re doing.
   b. Document the user’s emotions, behavioral action, and motivations at each step to really understand your customer touchpoints! Factor in the content model in your wireframes. Here are examples of low fidelity and medium fidelity wireframes.
   c. These are just a first pass - more thought through wireframes will come later in the semester as your MVP begins to come together.
4. Using Pinterest or another tool of your choice, make a moodboard - a collage of images - that convey the visceral cues you’d like a visual designer to consider when creating the interface for your app.

Upload your team assignment in Canvas (15% of your total grade)
■ Sketches of ideas (notes, stories, concepts, UIs, etc.) that show progression from initial ideas to your chosen design direction for your app, along with ideas that you discarded/refined along the way. Smart phone pics or scans of drawings are fine.
■ Your Content Model
■ Static wireframes that describe a draft UI design for the app.
■ Interactive wireframes
■ Mood board

You may merge all of the above into one document
Read either Eisenmann’s Summary Notes on Usability Testing or:

1. Jakob Nielsen, Usability 101
2. Nielsen Norman Group, Turn User Goals into Task Scenarios for Usability Testing
4. Steve Krug, Usability Test Script
5. Kara Pernice, Talking with Participants During a Usability Test
6. Jared Spool, Three Questions You Shouldn't Ask During User Research
7. Tania Lang, Eight Lessons in Mobile Usability Testing
8. Jakob Nielsen, Ten Usability Heuristics for Usability Design

Optional Reading

1. Steve Krug, Rocket Surgery Made Easy, is a short, funny, practical book on usability testing by the author of the UI design basics book, Don't Make Me Think!
2. UsabilityNet.org, Performance Testing
3. Cole Derochie, Unbounce, Measure Twice, Cut Once: Introducing User Testing into Our Design Process
4. Janice Redish, Six Steps to Ensure a Successful Usability Test
5. Interview with Rolf Molich, Usability Testing Best Practices
6. Will Schroeder, Observing What Didn't Happen
7. What You Will/Won’t Learn from Usability Testing - Cindy Alvarez

Team Assignment

1. MRD Due 11/1/2018
Class 6 - PRD 11-2-2018

Required Reading
1. PRD Template
2. Example PRD
3. Here are some examples of past PM101 PRDs you may wish to reference as you draft yours: WesTrek, TicketSwap, and PrepMarks.

Team Assignment Due 11/8/2018
1. Final Wireframes due on 11/8/2018 via Canvas
2. Final MRD's are due 11/8/2018 via Canvas.
3. Review the PRD template and the PRD posted under "Required Reading" above. Bring to class any questions you have about the PRD.

Class 7 - Agile (no lecture) most of class in scrum workshop 11-9-2018

Required Reading
1. Agile Development Principles and Practices (Links to an external site.), Tom Eisenmann 2015

Recommended Reading
1. This 7-minute video on Scrum 7-minute video (Links to an external site.)
2. Readings to expand on the question raised in the last two slides of the required reading on agile development, "When should you use agile vs. waterfall?": Waterfall vs. Agile (Links to an external site.), Mary Lotz; Pros and Cons of Waterfall and Agile (Links to an external site.)
3. A Quora thread on the transition to agile: How Do You Integrate Agile Into a Waterfall Culture? (Links to an external site.)
4. How user experience design is integrated into agile product development processes: Getting Real About Agile Design (Links to an external site.) - Cennydd Bowles
5. The following books provide an overview of agile software development methods:
   - Extreme Programming Explained (Links to an external site.), Kent Beck -- reviews the principles and practices of XP, an agile variant
   - Agile Product Management with Scrum, (Links to an external site.) Roman Pichler -- another overview of agile principles and practices, this one written from the product owner's perspective and centered around the Scrum method
   - User Stories Applied, (Links to an external site.) Mike Cohn -- the what, why and how of drafting user stories for agile software development projects
   - User Story Mapping (Links to an external site.), Jeff Patton -- integrates agile development into a product development process that includes customer discovery and MVP testing. The book's core ideas are captured in this presentation (Links to an external site.)
   - Why user stories are old school, so you should use Job Stories & Jobs-to-be-done

Team Assignment - None, start working on PRD
Class 8 - PRD & Careers in Product 11/16/2018

Required Reading
1. Nine Rules for Running a Productive Design Critique - Jake Knapp
2. 23 Questions for Early UI Design
3. You may also wish to re-read Notes on UX Design, assigned for our Sep. 19 session
   1. PM: The Person, The Situation, and The Style - Ellen Chisa
   2. Four Mistakes New Product Managers Make - Matt Schnitt
   3. Seven Essential Skills for the Full Stack Product Person - Alex Cowan
   4. Be a Great Product Leader - Adam Nash
   5. Product Strategy Means Saying No - Des Traynor
   6. Do Product Managers Really Need a Background in CS? - Jackie Bavaro

Recommended Reading
1. Management Cliches that Work - Steven Sinofsky
2. PM at Microsoft - Steven Sinofsky
3. What Does a PM at Facebook Do? - Russ Heddleston
4. Review this list of questions about careers in product management, which we've shared with our session panelists.
   1. Designing for iOS and Android Design Principles
   2. Julie Zhuo at Facebook, who has worked as a software engineer, UX designer, and product manager, has written a three-part series on what each role should know about the others' priorities and how they can work together productively. These posts will be of special interest to students who plan to work in tech companies big enough to hire designers.

Team Assignment Due 11/29/2018

PRD First Draft Due 11/29.
REMINDER: , develop UI designs for your app. Consult the required reading 23 Questions for Early UI Design to fine-tune your work.
Please also bring any questions you or your team has about the PRD. We will use the first 15 minutes of the session before we split into two rooms to address aspects of the PRD.
Class 9 - No Lecture/Team Meetings 11/30/2018

Schedule with TA, Half-Hour PRD Reviews with Professor

Team Assignment Due 12/6/2018
PRD Final Draft
Final Vision Presentation

Class 10 - Product Evolution 12/7/2018

Required Reading
1. List of Product Evolution Issues

Recommended Reading
2. Lessons Learned from Scaling a Product Team - Paul Adams
3. The Product Death Cycle - Andrew Chen
4. Everyone Starts with Simplicity: No One Ends There (And That's Okay) - Steven Sinofsky

No Assignment
1. Finalize your presentations & PRDs

Product Reflections Due 12/7/2018

No Class

Individual Assignment due December 8th
Upload via Canvas an 800-word essay -- about eight paragraphs -- addressing the following topics:

- How and why our product evolved. Three paragraphs or so should describe: 1) changes that your team has made to your product's design this semester, 2) why you made these changes, and 3) what you've learned from designing your product about the attributes of great products. 4) changes/improvements you'd make moving forward.
- Assessment of development process. Three paragraphs or so should describe what you believe your team did well this semester in terms of managing the product development process (with respect to customer discovery research; generating/evaluating potential solutions; wireframing; specifying requirements; MVP testing; etc.); process management mistakes you made; thoughts about what you might have done differently; and lessons learned from the process.
- Personal/professional reflections. Two paragraphs or so should share what you have learned this semester about: 1) the role of the product manager or product-focused founder; and/or 2) your personal fit with those roles.
- It's fine for you to read teammates' essays -- you'll learn more if you compare your impressions with theirs. To maximize learning and to conform with academic standards for proper attribution, please complete your essay BEFORE you read a teammate's. Then, if you wish to amend/append your essay in response to their ideas, please make any changes or additions to your essay using brackets and a bolded "Postscript."
PM Resources

Links to set of resources that are useful to PMs

Quick homepage setup
- [Google Sites](#)
- [Quick Overview of Product Mindset](#)

Project Management Tools
- Excel / Google Spreadsheets
- PivotalTracker
- Asana
- BaseCamp
- Streak
- Sprint.ly
- Aha.io
- Atlassian/Jira

Code Resources
- Github
- [Trending SQL on Github](#)
- Hadoop
- Codeacademy

UX resources
- [www.uxforthemasses.com/presentations/](#)
- Balsamiq wireframing tool
- Adobe Fireworks / Illustrator

Survey Tools
- Google Forms
- Survey Monkey

Flowchart Tools
- Omni Graffle (mac)
- Microsoft Visio
- [Google Drawings](#)
- Microsoft Powerpoint
Interviewing

Interviewing for PM should be fun. Best questions are ones that require you to think as a PM, analytically and logically on large problems. The below resources should help you prepare.

Blogs to read (to keep up on Web Tech)

- GigaOm
- TechCrunch
- The Verge

Philosophical

- Long Live the Web: A Call for Continued Open Standards and Neutrality - Sir Tim Berners-Lee
- The Meaning of Open - Google's Jonathan Rosenberg
- The Future is Open - Jonathan Rosenberg
- An Open Letter to Chris Dodd - ESR
- The Web We Lost - Anil Dash
- This Tech Bubble is Different - Business Week
- The Internet Remembers Too Much - Maciej Cegłowski

Industry Background

Internet (Overall market)

- “Internet trends” - Mary Meeker’s preso at Web2.0 summit (Dec 3, 2012)
- Platform adoption rates - speed of adoption of various technologies/products (July 16, 2011)
- Wadbusch securities report on “Second Internet” (Mar, 2011)
- Market segmentation landscapes on Search, Display, Social, Video, Mobile, Commerce, etc

Mobile

- Forrester report on Mobile Commerce (Oct 2011)
- Enterprise Mobility - infographic on Market Landscape (Feb 2012)

Social

- “The Geosocial Universe” - constellation diagram showing size of various social media companies (May, 2011)
- “The Social Internet” - Lou Kerner’s market landscape analysis on what’s happened with the internet over 20+ years

Video

- Ooyala online video index (Q4,2011)

Advertising

- Ad tech segmentation map (Sep, 2010)

Daily Deals

- Market size estimate by eMarketer (Mar, 2011)
- Online Coupons Research from Forrester (Sep 2011)

Payments

- Payment market overview with selected company coverage (Nov 2011) (Citi group, Mark Mahaney)

Startups/Entrepreneurship

- Span of the tech giants - startups coming out of Goog, FB, YHOO, MSFT (Jul 26, 2011)
- Startup genome report (May, 2011)
Other Tips
Amazon Web Services
Here is the pricing: http://aws.amazon.com/ec2/pricing/

On the topic of AWS, if you need to create an account and provide your developer with collaborator access here is the painful, non-intuitive process you should probably use. It took a bit of time to figure it out so we wanted to share it with you all. Also, please let us know if we made any mistakes!

2. Create a new group (with appropriate permissions e.g. S3 access - determining the right access is the hardest part!): https://console.aws.amazon.com/iam/home?#groups
3. Create a new user: https://console.aws.amazon.com/iam/home?#users
4. Add user to that group (select user and click add to group button bottom right)
5. Provide user with password and username, as well as credentials: https://console.aws.amazon.com/iam/home?#users (select the user name, then the password will come up, you can make your own password or generate one)
6. Provide user with your account identifier (remove the hypens) which is your account ID: https://console.aws.amazon.com/iam/home?#security_credential
7. The collaborator sign-in page URL is created automatically: https://your_AWS_Account_ID.signin.aws.amazon.com/console/

Using FB while Testing an App
To login to the app with FB while testing:
1. Add your developer as a friend, or send he/him your FB user ID.
2. Verify your facebook account (may need to add your phone number): https://www.facebook.com/confirmphone.php
3. Sign up as a developer: https://developers.facebook.com (Under Apps > Register as a developer)
4. Add developer request: https://developers.facebook.com/requests/

SQL
10min intro video on SQL
http://cs50.tv/2012/fall/shorts/sql/sql-720p.mp4
Wanted to share this fantastic SQL prep on Coursera. These are automated SQL exercises one can take, you can get immediate feedback. I am actually doing exercises for an upcoming interview. Class taught by the famous Jen Widom of Stanford.
https://class.coursera.org/db/quiz

Apple Dev/Edu Account
In sum, an Edu account is mostly for internal testing/internal apps.

So we do actually have to set up our own developer account for $99+tax so we can submit it to the app store. You can register here: https://developer.apple.com/register/index.action But it will take a couple days to process.

More information about the nature of an Edu account:
1. However to add the app to a tester's apple device, it must be connected to the computer where the app exists. Im not sure if we could use Testflight (a testing software) through the Edu Account.
2. Every 6 months, the agent (aka Tom) can elect to wipe existing test devices to keep the 200 devices free for the next set of testing. There is a small window to reset devices every six months.
3. To reset devices, “the agent” must call in to request the devices reset/or send an email through the member center. Member center > technical/program support > contact us > apple dev program > request details (provide team ID or email address associated with the team)

Site Security
You probably want to buy a security certificate:
User Analytics

To track user actions on an app, we used the free version of:
http://www.localytics.com/pricing/

Submit an App

What you need to know to submit an app:

Getting an iOS app accepted

Customer Research
free screen and voice recorder for customer research
Testflight for apple