Product Backlog

Black Box

Version #4

Personas

Professors

Dr. Warble Garble
Age 50 - Female
- Speaks English and Chinese
- Intense Personality, tends to overreact to most problematic situations
- Worked at University of Toronto for 10 years in the Stats department as an Assistant Professor
- Passion for teaching and statistical consulting
- Worries about students learning, lecture quality and the quality of the resources used to teach
- Uses blackboard to post assignments and notes, and any other essential details like due dates
- Has been collecting data on students marks over the past few years
- Likes to post the students performance through the course to help them underline what topic/concepts they are struggling
- Cannot handle complex software, needs external help if required
- Likes to work with software that can be used intuitively
- Likes to create assignments by hand, and then scan them to upload them online
- Skilled at analyzing data and teaching without software
- Likes creating new and creative ways to teach students
- Likes to provide feedback to students about their accomplishments or mistakes
- Tends to create multiple sets of problems to increase individual effort put into problems by students
- Frequently holds office hours after lectures, or some time in afternoons

Dr. Chizzywick D'Croeinstein
Age 36 – Male
- Proficient in programming, and using complex software
- Assistant Professor in Mathematics and Statistics
- Has previously worked at IBM as a System Analyst
- Prefers using keyboard shortcuts to perform tasks
- Likes to have a group forum for classes so they can set up an interactive chat for collaborating
- Likes to monitor students' performance to check how well he is teaching the course
- Likes to post assignments and solutions on BlackBoard
- Likes to use complex software that provides more features and benefits
- Likes to create assignments on the computer by using detailed text editor software called latex
- Likes to post notes online to ensure students that have missed class can catch up
- Likes to monitor the forum and actively checks the post for questions and concerns
- Uses various technologies such as Latex, Piazza, Git, class website, and Grademywork

Students

<u>Alex Mai</u>
Age 18 – Male
- Likes to use online resources (Wikipedia, YouTube, and Google)
- Student majoring in computer science, minoring in stats and in humanities
- Likes to study right after lectures, and work on assignments immediately
- Worries about if his assignments have mistakes in them
- Prefers working in groups when study
- Skilled at programming in Assembly and Turing
- Very dependent on questions to help himself with understanding the concepts
- Likes to go to office hours one in a while for questions because professors take too long to respond via email
- Likes to study questions that are similar to previous exams
- Likes to be anonymous on class forms like piazza (and is able to use LaTex)
- Likes immediate responses and feedback from professors
- Checks notifications constantly, uses apps like blackboard/google classroom to stay updated on class work
- Prefers convenience when working or studying for a class
    - Likes typing notes, dislikes writing notes by hand
    - To be able to work and study without the need of carrying a lot of books

<u>Pompous Perry</u>
Age 30 - Male
- Uses the new MacBook pro and has proficiency with Final cut pro
- Likes to remain within the apple ecosystem so that everything can be synced
- Majoring In computer science, with a minor in Visual Arts
- Avidly responds to piazza posts
- Dependent on online resources and uses R to do statistical analysis
- Uses Khan Academy to learn course material instead of going to every lecture
- Likes to do warm-up/sample questions before lectures or before starting assignments
- Uses facebook group chat to communicate with classmates and share notes
- Contacts the professor for a lot for clarification on lecture material
- Constantly checks grades
- Prefers receiving feedback from professor as soon as possible
- Likes to print out lecture notes and assignments so that he can add his own additions to them
- Skilled at note taking, staying organized and staying up to date on tasks

Pablo Escobar
Age 25 – Male
- Terrible at speaking/writing English but proficient at speaking and writing Spanish
- Likes to work offline so that he can work while he is on the bus
- Prefers to write everything by hand because he likes keeping physical copies of everything in his binder
- Wants to have everything graded with feedback immediately if possible
- Bad with technology but he can use straightforward applications as long as they have a useful purpose
- Likes to do questions repeatedly until he has an understanding of the concepts needed to solve them
- Prefers to work in isolation with a bare minimum of internet connection to avoid distraction
- Relies on notes taken in class instead of online resources
- Majoring in International Development with a minor in management
- Not a good researcher as he never liked using online search engines to find information
- Hates inaccurate information so he does not use much online resources that are not credited
- Websites that he uses on daily basis consist of Blackboard and Piazza

User Stories

1) As a Prof, I would like to login to WebWork so that I can access all the tools necessary
   o Tasks:
   o Create Login Interface so that the prof can login to the application (~2 Points)
   o Create Database to store the Prof info and all the info of the students (~3 Points)
   o Set up a way to prompt when the login info is wrong (~1 Point)
   o Description: Allow the prof to login to the app and display all the functions that the prof can access once inside the Prof terminal, if he/she enters wrong login credentials, notify them in a clear way.

2) As a Prof, I would like to add students to WebWork so that they can participate.
   o Tasks:
   o Create a page for inputting information for the students (~2 Points)
   o Create a button to upload the inputted information to the database. (~1 Points)
   o Dependencies: Database (User story 1, Task 2)

   o Description: Give a prof functionality to add students into the list of students currently participating in the Webwork assignments (with a specific user ID followed by their student number as password)

3) As a Prof, I like to upload some course notes so the students can remain on top of their work

- o Tasks:
- o Upload button to add file from computer (~2 Points)
- o Display files that have been added in the U.I (~4 Points)
- o Dependencies: Database (User story 1, Task 2)
- o Description: Create a page where students can view the lecture slides in a clear manner. (Optional: allow them to download the notes)

4) As a Prof, I would like to be able to post announcements and pin reminder when needed.

- o Tasks:
- o Create a field to input announcement info and add it to a list of announcements, with the option of making it visible to prof and all the students. (~3 Points)
- o Create a function to update the board. (~2 Points)
- o Dependencies: Database (User story 1, Task 2)
- o Description: A homepage screen where students can view what has been posted along with previous announcements and pinned reminders

5) As a Prof, I would like to create and edit problem sets.

- o Create an upload problem set button that will show file system to upload a file (~1 story point)
- o Have a download file system to be able to download the file (~1 story point)
- o Enable/ disable visibility of file when changes need to be made until adjusted. (~3 story points)
- o Creating a problem set using latex (~3 story points)
- o Editing the problem sets (~3 story points)
- o Description: Create a page where problems can be entered using LaTex formatting, and then upload save those problems. Desktop Java external libraries need to be remodeled

6) As a student, I would like to view all the announcements posted by the prof.

- o Create a page to access all the current announcements (1 Points)
- o Make all the announcements for that specific logged in student show up on the page (2 Points)
- o Dependencies: User story 4, Task 2
- o Description: Create a page where professors can post announcements for students to receive

7) As a Prof, I would like to see performance distribution of the class so I can adjust the level of difficulty accordingly.
   - Add student marks to database (~2 story points)
   - List Names and Marks of students (~ 3 story points)
   - Create UI for listing names and marks (~1 story point)
   - Dependencies: Database (User Story 1, Task 2)
   - Description: Create a page where a general overview of all the student's performance can be viewed
8) As a student, I would like to download a hard copy of the problem sets so that I can work offline.
   - List the available problem set (~1 Story Point)
   - Create a button on screen for downloading (~1 Story Point)
   - Download the selected available problem set (~1 Story Point)
   - Description: Create a page where all the problem sets can be viewed and downloaded
9) As a student, I would like to receive individualized versions of problems so that I can learn how to solve variations of problems of a similar type.
   - Create a page to get the input regarding which problem set the student wants to view. (~1 Story Point)
   - Retrieve every problem related to the selected problem set from the online database of problems (~3 Story Point)
   - Shuffle the problems retrieved and allow the student to view only 5 problems per problem set, which would allow each student to receive individualized problem sets. (~3 points)
10) As a Prof, I would like to give students their performance information.
    - Display only the students that have marks. (~1 point)
11) As a student, I would like to submit solutions for problem sets.
    - Changed the interface for creating questions to accommodate a format for multiple choice. (3 points)
    - Create activities for displaying and submitting multiple choice questions (3 points)
    - Create a page to view the results and feedback of the questions once all are answered (3 points)
12) As a student, I would like my work to be automatically graded.
    - Once questions have been answered immediately compare the submitted answers with the answers (2 points)
    - Display which answers were correct and incorrect (2 points)
13) As a student, I would like to receive immediate feedback.
    - Store present feedback texts in the question txt files (3 points)
    - When incorrect answers are submitted display the feedback (2 points)
14) As a professor, I would like to make problem set invisible until the date and time I want the students to see it.
    - Make problem set invisible to students until pre-set date and time (2 points)
15) As a professor, I would like to set up assignment due dates.
    - Set up due dates for assignment. (2 points)

16) As a professor, I would like to add new professors.
   o Add feature to add professors (2 points)

Justification Change In Product Backlog

The product backlog was changed when during the sprint 4 and 5. As a group, all developers agreed to spilt the following user story as it was a compound of two single user stories, and it would make more sense to implement them separately. Originally it was:
- As a student, I would like to submit my answers to receive the immediate feedback.

Now it became:
- As a student, I would like to submit solutions for problem sets.
- As a student, I would like to receive immediate feedback.

Remaining user stories

As a student, I like to have a practice section along side with the assigned questions to do some warm up.

As a Student, I would like to remain logged in even if the app quits.

As a student, I like to have a live chat session with the prof as I will be able to talk to the prof for help when I can't attend their office hours physically.

As a student, I would like to be able to finalize my answers before submitting.

As a student, I like to have a live chat session with the class as we can help each other with understanding concepts.

As a student, I like to study in a group where I can upload my notes to the group and ask where I did wrong on the question.

As a Prof, I would like to see the average assignment scores of all students so that I can decide whether or not the work I give out needs to be adjusted to be harder or easier.

As a student, I would like to view feedback from the prof so that I can know how I should go about improving my knowledge of the course material.