SWARE DELIVERABLE 02 - REQUIREMENTS

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SHADMAN SHADID   JAMES BHAGOUTIE

WEIQIANG ZHANG   LINA REFAI

PERSONAS
VERSION 0

Professor Vladimir Shostakovich

➔ 53 year old male that was raised in Russia

➔ Teaches statistics courses, does research on stochastic processes, and is the stats Program Supervisor at the University of Waterloo

➔ Lives close to school and has computers with internet both at home and at work

➔ Can't speak english fluently, but he can carry on a basic conversation

➔ Manages TAs for his research - typically students who are stats majors and specialists

➔ Enjoys his work, happy to finish tasks at home if they were not completed at work

➔ Students and faculty can easily reach him by popping by his office or sending him an email but he is not familiar with responding from his smartphone

➔ Limited experience with modern technology, preferring to show students his steps when solving calculations in class, but is comfortable with the software he has to use regularly

➔ Typically prints out any online assignments so that he can hand back papers with corrections and feedback to students

➔ Cares a lot about the success of his students and uses statistical data to improve his classes

➔ Well known moderator in many discussion boards to discuss improvements to the student experience

➔ Enjoys giving unique assessments as opposed to traditional exams, like take home exams, group work projects as a final evaluation and partial final evaluations online (along with physical version)

➔ Very organized in his presentation of material and maintains the course content delivered throughout the semester

➔ Interested in exploring new technologies to enhance his students' learning and success in their education but he doesn't have time to learn about the technical details of programs and computer interfaces

Professor Karen Chong

➔ 30 years old, female

➔ 3rd generation immigrant fluent in 3 languages

➔ Currently in her 2nd year of teaching Intro to Statistics as an assistant professor

➔ Tech savvy and used to dealing with sophisticated applications with tons of features - she loves to find out about everything an application offers

➔ Spends 4 hours in commute daily so she prefers to review and revise her online assignments in those times

➔ Prefers evaluation applications that return instant feedback to students

➔ Praised by her peers as a driven individual with a lot of ambition to enrich the student experience

➔ Her PhD in Advanced Statistical Methods of Online Networking was highly regarded and won lots of awards

➔ Values statistics of online assignment completions to motivate students in class, and possibly give bonus marks

➔ Loves the automation of assignment marking as it gives her lots of time for research!

➔ Keen on features connecting social media to school assignments - she constantly tweets motivational speeches to get homework done

Professor Dina Seraji

➔ 35 year old female university professor. She was born in England and moved to Canada after completing her doctorate.

➔ Specializes in business statistics and teaches management and stats courses at the University of Toronto

➔ Has her own business consultant company

➔ Often on the go, either visiting different clients for her business or checking in on research projects she oversees

➔ Has a powerful smartphone that can do as much as her office computer

➔ Follows her slides exactly, rarely adding any extra content when presenting, and usually does not answer questions

➔ Very proficient with technology, uses complicated and advanced programs for jobs with her business and research projects at the university

➔ Primarily uses the basic technology provided by the university such as BlackBoard and UofT webmail

➔ Rarely changes the software used for class because she would rather spend her time on her business or her research

Professor Adam Smith

➔ 42 years old, male

➔ Teaches graduate level courses such as statistical consulting, risk theory, and advanced theory of statistics

➔ Worked in the industry for 15 years as a Data scientist, currently working as a part time it consultant for a small startup

➔ Has worked with complicated applications and is familiar with scripting languages such as Javascript, Perl and PHP

➔ It is very common for him to make quick improvements or changes to running applications at the startup he is currently working at

➔ Wants to ensure any online evaluation reflects the course material, is fair and different than any past evaluations; hates when past evaluation questions and answers are posted online

➔ Hires student interns during the summer to write code to ensure randomized values in online evaluations using problem generating languages

➔ Has very high expectations of his students, increases the difficulty of course content slightly if students find work to be too easy

➔ Having worked regularly with heavily analytics based applications, he finds user guides were always lackluster and found it very tedious to go through the old pdf files

➔ Suffers from carpal tunnel syndrome which causes a lot frustrations using some web applications

Student: Jane Doe

- ➔ 18 years old, female
- ➔ First year of university, fresh out of high school
- ➔ Studies mostly in the library when she's free and tries to organize study dates with her friends.
- ➔ Goes to the math aid center only when an assignment is due and she's having difficulties.
- ➔ She doesn't mind having the option of sitting down with a TA or fellow student when she's struggling but prefers problems with readily available solutions to check her answers (especially when the questions are not for credit).
- ➔ Likes a weekly assignment system so she keeps on track with the course, but only does work that counts toward her grade, unless she's practicing for a midterm or final.
- ➔ She's pretty average in her math/stats courses. She much prefers her courses with readings and questions that don't require numbers in their answers.
- ➔ She prefers solving answers on paper and inputting only the final answer she gets.
- ➔ She has great writing skills.
- ➔ When an assignment is marked, she likes to see comments on where she went wrong.
- ➔ Only uses technology for social media.
  Uses Pages on her Mac to write her essays.
  No other technological proficiencies.
- ➔ Has nothing against technology as she sees it, but has no clue about the underlying technologies that exist such as latex.
- ➔ She hasn't really used any online math tools so she doesn't have any feelings towards them in particular, but she does like to give feedback when she tries new things.

Student: Slacky MacSlackerson

➔ Male, 17 years old

➔ First year student in the Fine Arts program

➔ Works in spaces that inspire him, and as an arts student prefers places and things that have personality/character.

➔ Does his readings outdoors if weather permits, and avoids the library at all costs.

➔ Personally prefers using websites that draw the eye, which is probably why he avoids most online math related things as he finds them drab. He likes the use of interesting fonts, formatting and a clear design that allows him to differentiate the key parts of the page/app easily.

➔ Slacky is really good at sculpting things and drawing. He's got a very arts oriented Instagram page and posts often.

➔ He has a smartphone he uses a lot to take photos, post on social media and keep in touch with family and friends.

➔ He takes notes on paper as it allows him to doodle when bored and has never tried typing math oriented things because the thought of finding all those special characters makes his head spin.

➔ He tends to forget about the small details he learns in class.

➔ His lectures interfere with his social habits, so he tends to skip them and read textbooks when he has free time instead.

➔ He almost never does practice questions so he prefers learning from knowing how to answer questions from given solutions.

➔ He always checks the syllabus for all the coursework that will give his marks and makes sure he completes them. Also prefers notifications when something new is up for completion.

➔ He has nothing against technology in general and uses it in all his social media, but doesn't understand the point of using math tools online when it's so much easier to write it out.

Student: Hype McGee

➔ Female, 20 years of age

➔ Second year pursuing a specialist degree in Math. Just came out of a semester abroad in France, where they had a few advanced math courses she wanted to try.

➔ She enjoys exploring new areas of math in her free time, and has joined the math club. She has a relatively light course load this semester, as the math courses she's taking are teaching things she's relatively comfortable with.

➔ Has a long commute, where she solves problems on her laptop as she finds this easier than carrying around sheets of paper.

➔ Uses mostly online resources, so she rarely ever buys paper textbooks.

➔ Finds doing math questions tedious if she already knows it, so prefers to have something that gauges her ability and provides questions accordingly.

➔ She's really good at solving number problems and teaching herself things using online tools.

➔ Likes helping others and is currently a TA for a first year math course as well.

➔ She's worked with online math tools a lot, having practiced a lot of what she knows off them.

➔ She prefers auto-marking, as she gets instant feedback.

➔ She's somewhat proficient at Latex, as she's had to use it when doing online problems.

➔ She is very good at keeping track of her notes, all her notes are sorted by year and category. She likes it this way so she can refer back to anything she had on a subject later on.

➔ No problem with technology, and only uses paper when brainstorming solutions to a particular difficult problem.

➔ Never asks for answers or any answers as she strongly believes if she can't solve something on her own she won't solve every challenge that comes her way later.

User Stories
Version 0

- As Adam Smith (a professor), I would like to make questions by inputting simple text, a solution of an exact string input and the points awarded for getting the correct answer.
- As Dina Seraji (a professor), I would like to create multiple choice questions by specifying the question, a set number of given answers, and the points awarded for getting the correct answer.
- As Jane Doe (a student), I would like to view and answer questions on the application
- As Adam Smith (professor), I would like to create an online assessment with a title and either an empty list of questions or a list of one or more questions that I can add from my existing questions, so that I can start organizing.
- As Adam Smith (professor), I want to login with my faculty ID and password so that I can input private information into the application.
- As Adam Smith (professor), I want to be able to view the questions associated with my account upon login.
- As Adam Smith (professor) I would like to create, delete, or modify courses, which have a title, a list of student accounts that are in the course, and a list of assessments, so that I can organize problems or assessments according to the courses I am teaching.
- As professor Adam Smith, I would like to make the created questions available to students, so that students can view and answer questions.
- As student Slacky MacSlackerson, I want to have an account with a login and a password, so that I can view questions for courses as professors make them visible.
- As student Jane Doe, I would like to view my grade when I complete a question, and when I complete the whole assessment so that I know what grade i am getting at any point.
- As a professor, I want to add and remove students to courses I am teaching, so that I can control who is in my classes.
- As a student, I would like to only have access to the assessments for the courses I am enrolled in, so that I know what questions of assessments I have to do.

- As professor Karen Chong, I would like to be able to add hints as a tooltip, displaying when a student hovers over it for each question, so that students can get some help if they need it.
- As Jane (a student), I would like to have a page with sample solutions to solutions of assessments that are available.
- As student Jane, I would like every assessment to be clear about whether it is for marks or not.
- As student Hype, I would like to save or submit each question in an assessment individually, so that I can resume work on a question or assessment later.
- As Slacky (a student), I would like to view hints on questions if available, so that I do not struggle as much on difficult questions.
- As Adam Smith (professor), I want to set due dates on online assessments, after which students will only be able to view the online assessment, and not submit any further questions.
- As professor Vladimir, I want to control how many times a student can retry a question
- As Adam Smith (professor), I want to be able to prevent students from seeing the answers to assessments until the due date has passed.
- As Karen Chong (a professor), I would like to have the option for a student to receive the result of the question if a student has used up all their attempts and did not get the correct answer.
- As Karen Chong (a professor), I would like students to be able to suggest a hint for any question, only after they have submitted the question, of which I can approve if the particular questions are challenging.
- As Hype (a student), I would like to be able to suggest a hint for a question after submission so that I could be of help to others.
- As Vladimir Shostakovich (a professor), I would like to notify students whenever an assessment in their course and/or course's online assessment has been added, edited, or deleted.

- ➔ As Adam Smith (a professor), I would like the option to add students to a course when given a csv file of their student details.
- ➔ As Adam Smith (a professor), I want to add questions that compile and execute problem generating code to randomize the variables of the problem, with an expected answer that also changes based on the random generation, this is all to ensure that students make a fair attempt at every question and every student gets different version.
- ➔ As Slacky (a student), I would like any math symbols frequently used in the course to be easily accessible so that I do not have to search the symbols up.

-- User Stories identified as extra --
- ➔ As Karen Chong (a professor), I want to be able to download the online assessments as a pdf.
- ➔ As Vladimir (a professor), I want to be able to get a copy of questions in a reasonable format for an printed online assessment.
- ➔ As Dina Seraji (a professor), I want to have access to previous problem sets that I can reuse from past years.
- ➔ As Dina Seraji (a professor), I want to allow someone else to have professor-like access to a specific class, so that I can get someone else to do some work for me but still control who has access to my classes.
- ➔ As Adam Smith (a professor), I want to be able to set time limits on each online assessment, after which students are unable to answer questions.
- ➔ As Vladimir Shostakovich (a professor), I want a timer on each assessment to let students see how long it's taking them to do the assessment.
- ➔ As Vladimir (a professor), I want to have a frequently asked Q&A for each online assessment.
- ➔ As Jane (a student), I would like to post feedback and questions on the Q&A board.
- ➔ As Karen Chong (a professor), I want to post messages for a class, so that students can get updates or encouraging messages from me.

- ➜ As Vladimir (a professor), I want to get statistics on problems/ problem sets such as
    - ◆ Percent of students that completed questions on an online assessment
    - ◆ Percent of students that got a question correct/incorrect
    - ◆ Average amount of time for each online assessment to be completed (each student, every student in course)
    - ◆ Average amount of time before each question was submitted. (each student, every student in course)
- ➜ As Dina Seraji (a professor), I would like the option to have students added to a course based on their status on ROSI or equivalently Blackboard when they first register their account.
- ➜ As Slacky (a student), I would like to have a lifeline option to share my question with a friend and solve it together.
- ➜ As Hype (a student), I would like to answer the questions for an assessment while offline by selecting questions or assessments to save to my local computer/device, so that I can work on assessments or questions when I do not have internet and upload the answers when I do get internet.