Five Girls Sprint 1 Deliverables

Vision Statement

Executive Summary:

This is the sprint one deliverable for Test Cracker, and wherein the team will present our conception of a course information record application. First, the report will discuss the overall project, its description, and its business case, and then move into the user scenarios with a discussion of the use, interface and motivation for those who might seek out this application. Finally, the document will present a timeline for the project going forward, and the current status of the group.

Elevator Summary:

Studying at RPI, there's a realization that finding course materials such as backtests is not very convenient. If not provided by the instructor, students have look for backtests by themselves. They may find these materials in the student union, or from the outdated 'rpistudygroup.org'. However, the backtests collected in student union haven't been updated for a long time. Moreover, the backtests are not sorted according to different sessions, or by various instructors. The other feature we present is the public calendar of each course and a private calendar based on user's schedule. Students may frequently check syllabus and calendar for deadlines of homework and date of exams and quizzes. Yet some instructors post course information on the Submitty, others on LMS Blackboard and may be on their own websites. Our app will provide users with an integrated platform where they can easily check due dates, homework information, recent announcements and etc. Therefore, we propose Test Cracker, an app that allows users to upload and search for course materials they want. Users need to sign up with RPI email for identity verification. Then they can search for the course they need and browse all the materials related.

Project Description:

Test Cracker is an IOS application for RPI students to improve efficiency and keep track of important academic events. The main functionality of the application is to collect backtests for all the courses in RPI and share them to all users. Users can use the application to upload, edit, comment and download the backtests. All the backtests will be organized by departments and courses. Also, users can select their courses and system will provide the backtests for the selected courses. Besides the access to all the backtests, the application provides alert and notification of the important dates to help students manage their time better. Users can mark their homework, tests and quizzes date, and an academic calendar will be generated for users, then the application will remind student due date by popping up notifications.

Business Case：

There are two major resources of backtests: the rpistudygroup.org and the fraternity Alpha Phi Omega at the student union. The rpistudygroup.org has not been updated for long and it lacks proper maintenance. The Alpha Phi Omega fraternity at student union has its own website where all the backtests available are listed. The tests are kept in document folders at the APO office in the student union. However, students cannot view backtests online and all the materials cannot be taken out, students have to take photos one page after another which costs lots of time. Backtests of one course are not categorized nor sorted. It would be more efficient if we keep the instructor information and properly organize each version.

Therefore, an application which can have access to all the backtests can serve RPI students well. In fact, most of the colleges have their backtest libraries. The University of College London has a web application, UCL online library, where keeps all the backtests, homework and notes. We intend to implement an online platform for RPI students to share backtests, discuss, and keep track of dues and exams. Compared to existing resources for RPI backtests, our application enables students to access backtests no matter where they are. For volunteers who would like to share their past exams with others, they can simply take pictures and upload to our platform. The integrated calendar marks homework dues, quizzes, and exams.

Project Stakeholders:

Group members:

- Jennifer Fu
- Sylvia Hua
- Yiran Zheng(Feli)
- Zhou Lu
- Chenhao Pan

All group members have a stake because they need the project to pass the course. Also, they may benefit from the app afterward.

Professor and TAs:

- John Sturman
- John Angel
- Elizabeth Okromea Kyei

The professor and TAs have a stake because they want students to have a successful project. Note their stake is not as large as the group members.

RPI Students

All RPI students can benefit from this app because the app will assist them to learn better and have better time management. The app provides reminders on test dates and plenty of backtests for each course. Since the application provides alerts and notifications of important deadlines and test dates marked on the calendar, students don't need to worry about forgetting the test dates or missing the important deadlines. Besides, the app allows users to upload and download the backtests, so students can have more materials to practice and review.

Major Features:

1. Select courses and add to personal calendar
2. Upload, download, edit, and comment on backtests
3. Mark the test dates and assignment deadlines
4. Set reminder for the tests and deadlines

Major Product Risk:

1. Users can only get and use this app through the ios platform.
2. Due to our design, this app only supports the upload and download of the image so far.
3. The product relies on users to upload the backtests and schedules by themselves. If no users ever upload any materials, the product can not even function.
4. If users uploaded misleading information, such as incorrect test date, assignment instruction or backtests of other courses.

Major Project Risk:

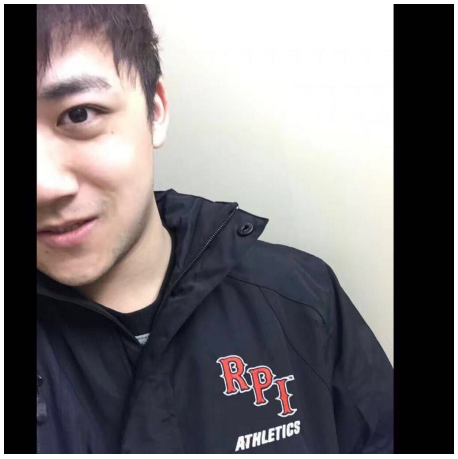
1. Team members don’t have much experience with ios app development. It may take more time than expected for the team to learn related technologies.
2. All materials should be stored securely. The team needs to find the best way to store the documents.
3. All materials come from users. The application needs users to voluntarily upload a recognizable version

User Scenarios

Persona#1 JiaMing Wang

Jiaming Wang is an undergraduate student at Rensselaer Polytechnic Institute completing a bachelor degree in computer science concentrating at Artificial Intelligence. Jiaming loves playing video games when he is not busy. And, he likes playing table games and card games with his friends on weekend. Jiaming is a little procrastinating. He has frequently been seen working hard on the assignment just before the deadline. Also, Jiaming has a hard time in learning CS courses. He usually cannot follow the pace of the courses well.

Personal Background:



Full Name: JiaMing Wang
Age: 25
Occupation: Student
Income Level: $0/week during the academic year, gets all his money from parents
Education: RPI Student (Junior) CS major
Marital Status: Single
Living Arrangement: Lives in a decent apartment in Troy
Personality:
Hobbies: Acting, Playing a fistful of dollars with PS4, Hearthstone

5 Potential Persona Goals:

1. Never miss a due or exam
2. Find backtests for quizzes and exams
3. Better time management
4. Communicate with other students taking the same class
5. Make friends with people sharing the same interests

Scenario Setup

JiaMing has four midterms this week. He does not have enough time to go through all the practice problems. Running short of time, he decides to work on the past exams first, trying to figure out what types of questions are most likely to be in midterms. He checks the rpistudygroup.org and the online APO archive. The first website has not been updated for years. The second one does have backtests JiaMing is looking for yet the APO office is closed on weekends.

Main Goal:

Jiaming wang wants to have better time management and finds a balance between his hobbies and academic life.

JiaMing's Action:

Jiaming opens his cell phone and finds the application - Test Cracker. He clicks 'register' and creates an account with his RPI email. Then, he logins in his account and goes to the homepage. On the homepage, Jiaming goes to the search bar and enters the name of the course, and then he clicks 'enter' to go to the detailed page for the course. After that, he clicks on the course name in the result and sees a list of material which belongs to this course. He clicks one of the backtests and browses it in the form of pictures. When seeing useful materials, he presses the picture and then clicks 'save image' button. After viewing all the materials, Jiaming clicks 'back' button to the detailed page of the course. Then, he clicks 'Calendar' button on the top to switch to the calendar page. On the calendar page, he clicks the 'mark' button on the sidebar. All deadlines and test dates marked will be automatically generated.

Summary of System Responses:

Open the App: Opening the App on ios system will present the login/register page to the user. Jiaming has to use his RPI email address to sign up at the first time of use. The system will send a confirmation email to Jiaming's mailbox and will send another email to Jiaming after he successfully signed up.

Login: Jiaming enters his RPI email address as the username and then enters his password. After signing in successfully, a page with the search bar and a list of departments will show up.

Find backtests: Jiaming goes to the search bar and enters the name of the course, and then he needs to find and click ‘enter’ on his keyboard. The app will send the search request immediately and the result will show up. He then clicks on the course name in the result and sees a list of material which belongs to this course. By clicking the material he wants, the content of material shows up in the form of pictures. The materials are sorted by semester, year and instructor. He browses these pictures and presses the picture he wants to save. A ‘save image’ button will appear on the screen and by clicking this button, Jiaming successfully saves this picture.

Check schedule: Jiaming goes to the search bar and enters the name of the courses he signed this semester. By typing in the names of the courses, the app will accept the search request and the page of the course will show up. He checks the calendar section of the pages and clicks the mark button beside the calendar. The app will automatically form an academic calendar with all the deadline and test date marked. And 3 day before the marked dates on the calendar, the application will reminder Jiaming by notifications.

Project Schedule

Sprint 1: Feb 4 - Feb 11

- Project schedule
- Set up dev environment for ios
- Set up git repository
- Decide the framework on server end and set up the environment

Sprint 2: Feb 11 - Feb 19

- Design database to store course material, including backtest, syllabus and course code, also the exam date.
- Design base UI.

Sprint 3: Feb 19 - Feb 25

- Implement the transmission of pictures through HTTP request and design how to store these pictures in the database.
- Simple server running on localhost to see everyone can run python+django successfully.
- Design the interface and what attributes in JSON object do we need to connect mobile end and server end.

Sprint 4: Feb 25 - Mar 11

- Design database to store user information, including the user personal profile like email and the course they are taking in the current semester.
- Implement the user login system to ensure that users can only select the course and see the materials after login.

Sprint 5: Mar 11- Mar 18

- Test the upload and download file interface between mobile end and server end to ensure the users can transmit the files they need correctly.
- Implement functions for course searching and material searching on backend.
- Add UI widget for searching function

Sprint 6: Mar 18 - Mar 25

- Test the user login system to ensure that after login, users can see their courses and use the search function correctly.

- Test the upload file function while login as a user.

Sprint 7: Mar 25 - Apr 1

- Add a feature for users to report mistakes on course information so that the admin user can correct them.
- Add backend functions and mobile end UI for the administrator to modify the course information.

Sprint 8: Apr 1 - Apr 8

- Add a feature for users to comment on a specific course page.
- Add UI widget and correspondent interface for commenting.

Sprint 9: Apr 8 - Apr 15

- Test all features to ensure all backend functions and mobile end interfaces work correctly.
- Prepare presentation.

Contribution Summary (3 points)

Jennifer Fu:

- Business Case - Did the research on other similar application and compare
- Project Description - Generate the application major function and wrote the description
- System Response - Modify the system response

Sylvia Hua:

- Project schedule - Created the outline of the project and arrange it to the specific sprint
- Feature list - Proposed initial feature list based on the brainstorming
- Reading over other work and suggesting improvement/modification
- Status report - Wrote the first draft of the status report

Yiran Zheng(Feli):

- User scenario - Set up one of the personas including background, potential goals, and main goal.
- Feature list - Proposed initial feature list based on the brainstorming
- Product risk- Proposed one of the major product risks
- System response-enriched system response
- Project description-implement project description
- Reading over other work and suggesting improvement/modification

Zhou Lu:

- Design the structure of the app
- Deliver a survey about what RPI students expect from the app

Chenhao Pan:

- Project Stakeholders - Wrote the first draft of project stakeholders
- Feature list - Summarized the major features of the project
- Product/Project risk - Proposed the initial product and project risks
- Project Description - Enriched the project description with the function of alert and notification
- Business Case - Enriched the analysis of the competition
- Persona - Enriched the summary of the persona and wrote Jiaming’s action part
- Reading over all the work and suggesting improvement/modification

Status Report (3 points)

Up to this point, we've set up GitHub repository, installed Django as backend framework, installed MySQL, and downloaded Xcode for ios development. We have done a brainstorming session to decide the features in this app, as listed "major features". At first, we want to use java to complete our project, however, we found that java cannot be used as a programming language for ios application. Therefore, Feli and Sylvia found out that in order to develop ios application, we need to learn a new programming language and use Xcode as the development environment.

The first issue we met in the development and design is the lack of experience. We have little experience with UI design. Zhou did plenty of research and helped design the base UI. Based on this accomplishment, we are able to develop backend and mobile end simultaneously now. Similarly, not all group members have experience with the database system. Sylvia helped other group members understand how information is stored and transferred from the database to the functions in the code and finally to the mobile end.

Also, none of us has related experience with ios development, so we are currently working more on Swift examples and tutorials to get ourselves ready for the project. We are looking forward to completing our design of the database to store course materials by the end of Sprint2.