KASPER – ID3 PROCESS DOCUMENTATION

SOFTWARE DEVELOPMENT TEAM:

Project Manager: Tushita Patel

Dev Lead: Kristof Mercier, Dylan Prefontaine

Test Lead: Jeremy Liau

Build Manager: Christopher Mykota-Reid (ChrisMR)

Developers: Gaurav Arora, Haotian (Justin) Ma, Melody (Tian) Zhao

Test Team: Christopher May (ChrisJ), Ryan Tetland

Documentation: Arianne Butler

Contents

1.0 Task Assignments

Dev Team

- Below are the links to our front and back-end Trello boards, respectively. These outline the ID3 task assignments for the dev team. You may be prompted to sign in to view these boards. For ID3, we have added time estimates to each card. These estimates were approximated by the dev leads:

  Front-end: https://trello.com/b/xLPAGoFi/dev-id3-front-end

  Back-end: https://trello.com/b/f5C3dKDc/dev-id3-back-end

Test Team

- Test Matrix Update: Jeremy
- Update flow diagrams: Jeremy
- Manual Android testing: Jeremy
- Testing plan update: Jeremy
- Protractor ID3 test creation: Ryan and Chris May
- Manual browser testing: Ryan and Chris May
- Create use cases: Ryan and Chris May
- Defect report update: Jeremy, Chris May, Ryan

Documentation

- Organization, compilation, and editing of documentation: Arianne

2.0 Activity Log

The following link leads to our term schedule. Click on the “Individual Activity Log” tab at the bottom for our group activity log, as well as the group member contribution pie chart. This section also indicates which tasks were completed via pair programming. Click on the “Activity Log Totals” tab to see the summary of hours for each group member. In the “Activity Log Totals” sheet, you will also find a section that displays the percentage of hours worked that have been peer reviewed by at least one other group member. Currently about 45% of hours worked has been peer reviewed.

Note: we are currently experiencing difficulty with this link and you may need to copy and paste it into your web browser.

https://docs.google.com/spreadsheets/d/1g3CfvlI1erdg2zaHZlVyh6uQ-rYQ6L5Cay0YIn2UETk/edit#gid=0

3.0 Inspections ID3

As the Inspections begin to focus more heavily on actual code, the team has decided to adopt an Inspection Format. This format is essentially a set of rules and guidelines to be followed by all group members attending the inspection. The purpose of the format is to encourage participation and effective team communication. The Inspection Format document can be found on GitHub at the following link:

https://github.com/CMPT371Team1/Documentation/blob/master/Meetings/InspectionsFormat.pdf

Inspection 6: Back-end API, Gaurav Arora

Date: February 21st /17 at 2:00pm

Summary: This code review was held in Spinks S371. Gaurav is one of the back-end developers and has been working on the back-end API. The artifact involved the Web API Document, and both the implementation of the Create_User API and its unit test. All attendees were asked to review the artifact and prepare any questions or flaws that they encountered. The group lead randomly selected Dylan, Ryan and Justin to share their questions/flaws. Justin and Ryan were asked to be the scribe for the inspection and Chris May volunteered to be the moderator. Each of the documents were reviewed line by line by the committee and a total of 51 faults/errors/areas of improvement were discovered. After the session, Gaurav was asked to modify the document and code by February 23rd, with Tushita's help.

Inspection 7: ID2 Documentation, Arianne Butler

Date: February 23rd /17

Summary: This code review was held in Spinks S371. The artifact was the ID2 Documentation as completed by Arianne. Tushita selected Justin, Chris May, and Ryan to share any faults or questions discovered during review of the document. Dylan volunteer to be the scribe and Arianne was the moderator. The inspection focused on review of the ID2 Documentation, which is split between two documents: Project Documentation and Process Documentation. The team discussed each section in detail, and revaluated the probability and loss elements of each risk in the Risk Assessment section. Feedback included a couple of minor errors, as well as several suggestions for improved formatting and readability. Arianne will incorporate these suggestions for ID3 documentation.

Inspection 8: ID3 Back-end Code, Kristof Mercier

Date: February 23rd /17

Summary: This code review was held in Spinks S371. The artifacts reviewed were the signIn and changePassword API calls, along with their individual unit tests. Tushita selected Justin, Tian, and Chris MR to share any faults or questions discovered during their pre-inspection artifact review. Dylan volunteered to be the moderator, and Tian and Justin both acted as scribes. After preliminary concerns were documented, the group went through each of the files line by line, documenting issues and potential improvements. Suggestions included new external functions to reduce code duplication, the addition of a few minor test cases, and improvements to readability and commenting. The development team as a whole was able to communicate which new functions could be used in place of repeated code.

4.0 Bug Party

Date: February 22st /17 at 2:00pm

Summary: A bug party was held on the Wednesday of the break and lasted about 2.5 hours. There were 9 team members in attendance. The bug party successful uncovered twelve bugs in our application, all of which were reported on Trello at the following link:

https://trello.com/b/bgsgVT4K/bug-party1

All bugs discovered are either fixed, or being fixed. The full Defect Report can be found in the ID3 Project Documentation in Section 4.3 Defect Report. This bug party was held early on in implementation in order to promote the early detection of bugs. Unfortunately, this meant that there was less functionality to explore. Therefore, the team will hold another bug party during the code freeze in ID5. The date is set for March 22nd /17. ID5 should be dedicated to bug fixes and latter formalities, such as documentation. The early stages of ID5 will be an ideal time for a bug party because there will not be any new implementation.

5.0 Client Communication

Email Communication: On February 22nd /17 an email was sent to Conrad with some questions and a link to the updated UI changes made during the most recent client meeting, and during the UI inspection. Conrad said he would reply to the email by the end of the day. Because these questions were not answered via email, the meeting the following day covered most of those questions.

Meeting #5:
Date: Feb 23rd /17
Time: 11:30am
Location: Geology Tim Hortons
People Present: Tushita (Project Lead), Dylan Prefontaine (Dev Lead Technical), Kristof Mercier (Dev Lead)
Purpose: Gain answers, make clarifications, and report changes to UI

Summary:
During the meeting, questions were asked both about the UI and the functionality of the app. Conrad also provided us with the Kasper graphical logo, and agreed that we use the university servers instead of his own. He requires more time to set up a private server. The team pointed out to Conrad that the Buy/Sell mode feature (UI decision from the previous meeting) would not be an intuitive way of separating potential buyers and sellers who are using the app. This UI decision was changed again. Now, we will include a "Sell a Home" button in the bottom right corner of the app pages. It will have its own colour to separate itself from the regular "Buy/View" perspective. Lastly, Conrad requested that we finish the major workings of the front-end code by March 8th, in order to present the app to potential investors. For this purpose, Conrad will be attending the ID3 presentation on Tuesday, March 7 at 4:00pm in Thorv 205A, to learn how far the team has gotten in development. Conrad cancelled the meeting on Mar 2nd /17.

Text Message Communication: On Tuesday March 1st /17, a text message was sent to Conrad containing several questions. The text message communication was used to replace the Client Meeting on Tuesday March 2nd /17, which was cancelled by Conrad. We asked for confirmation that Conrad does not want any Favourited Listings to be cached on the user device.

Conrad confirmed, explaining that he does not want performance to decrease as the users add more Listings to their Favourites. Making the API calls faster to increase the overall performance should be top priority.

6.0 Risk Assessment

Introduction

Changes to the formal risk assessment from ID2 include new risks and re-evaluated risks. Risks are divided into two categories – technical and non-technical. Technical risks are related to the construction and design of our code, and non-technical risks relate to team management, such as group structure and client communication. For each risk identified, this risk assessment will provide estimates for probability of occurrence and severity, possible scenarios that could cause the risk to materialize, and mitigation and contingency plans. This report also contains a section dedicated to materialized risks and their effect on our project.

6.1 Technical Risks

6.1.1 Integrating the Back-end with the Front-end

Probability: 0.4
Loss: 0.4

Scenario: The dev team is split into two groups; the front and back-end. This allows developers to focus on one area, but it could create integration issues between the front and back-end.

Mitigation: The dev team will start working on integration issues as early as possible. This will ensure that problems are caught early and that there will be time to find a solution. The dev team should aim for strong communication so that all members are familiar with what is being implemented and how the various pieces work together. Developers should pair program frequently and hold multiple dev meetings in each ID. Further communication is encouraged in the development channel on Slack.

Contingency Plan: By focusing on integration as early as possible, the dev team can identify potential issues and estimate the time it will take to correct them. If necessary, some front-end requirements changes will be moved to the next ID, so that integration between the front and back-end can take priority.

6.1.2 Setting up The Server in Time

Probability: 0.9
Loss: 0.4

Scenario: Both the client and the Computer Science Department have been slow to set up a server for our project. This needs to be up and running as soon as possible in order to progress with implementation.

Mitigation: Our group will stay in contact with the department and inform them of the urgency.

Contingency Plan: If the department cannot set up a server for us in time, we will have to rely on the client to set up a remote server.

6.1.3 Compatibility Issues with Protractor and Different Browsers

Probability: 0.5
Loss: 0.2

Scenario: The end-to-end tests with Protractor do not work with the latest version of Firefox. This prevents running the end-to-end tests in parallel with other browsers, such as Chrome. Most of these issues are due to inexperience with the test tools and continuous integration servers.

Mitigation: Research will be conducted to find out which browsers work best with both Protractor and TravisCI. The developers of Protractor recommend certain browsers over others.

Contingency Plan: If the end-to-end tests cannot be implemented with TravisCI, the test team will run the tests manually.

6.1.4 Implementation of Protractor with TravisCI

Probability: 0.6
Loss: 0.2

Scenario: The build master becomes busy is unable to properly implement the end-to-end tests for this ID.

Mitigation: The build master, Chris Mykota-Reid, will pair program with the vice build master Gaurav, so that two team members are familiar with the build. Work on the build should be completed as early as possible so that there is time to resolve this issue, should it arise. The build master will be considered a full-time job for ID3, so that the build can be prioritized and finished.

Contingency Plan: If the end-to-end tests cannot be automated with the build, the test team will run them manually.

6.1.5 Compatibility Issues

Probability: 0.6
Loss: 0.2

Scenario: Due to the multi-platform functionality of our app, it will be challenging to implement extensive testing on all platforms.

Mitigation: Testing will be as thorough as possible on each platform. This might involve testing on multiple operating systems, or using multiple browsers. By doing this we aim to identify platforms that are incompatible with our app.

Contingency Plan: If a platform is not compatible, research and testing will be performed to identify the origin of the problem. If the issue is unresolvable, the group manager will inform the client and document the app's inability to work on the platform(s).

6.1.6 Not Enough Code is Peer Reviewed

Probability: 0.6
Loss: 0.2

Scenario: Group members do not have enough pair programming sessions, which results in less reviewed code. This could lead to a decrease in quality and/or additional bugs.

Mitigation: Group members are required to complete at least one pair programing session per ID, and will be encouraged to do more. All group members are also required to hold one code review during the term. An excel spreadsheet is set up to record and monitor what percentage of completed work has been peer reviewed.

Contingency Plan: If the percentage of peer reviewed work is too low, a part-time team of "Code Police" will be formed. This team will look over sections of code and suggest improvements.

6.2 Non-Technical Risks

6.2.1 Documentation Comes in Late

Probability: 0.7
Loss: 0.3

Scenario: A group member does not hand in their assigned documentation to Arianne by the set deadline.

Mitigation: Arianne will send out skeleton documents to everyone completing a write-up for ID3. These skeleton documents will match the overall design of our documentation, and will result in less reformatting work for Arianne. Additionally, a master checklist will be posted to Git, so that team members can view who is doing what, and so that nothing gets forgotten.

Contingency Plan: Arianne will seek help from Tushita and others if write-ups are provided too close to the deadline.

6.2.2 Busy Schedules

Probability: 0.8
Loss: 0.3

Scenario: During the second half of this ID, many of our group members will be busy with midterms and other course projects. This will result in less productivity for our project.

Mitigation: Extra work will be done during the first half of ID3, and the group will hold two code reviews and a bug party during reading week. All group members are expected to complete their individual tasks so that no one person is left with extra work. Getting work done as early as possible will compensate for busy schedules in the following week.

Contingency Plan: If group members are too busy and do not finish the ID3 expected tasks, these tasks will be pushed forward to ID4. This is undesirable, as ID4 is our last opportunity to finish implementation. ID5 should focus primarily on bug fixes and optimization.

6.2.3 Issues with Communication Programs

Probability: 0.4
Loss: 0.1

Scenario: Our group is relying on programs such as Trello and Slack for communication and organization of our project. If one of these programs fail, it would affect our productivity.

Mitigation: Our group will have a back up requirements list that resembles the tasks on our Trello boards.

Contingency Plan: The number of group meetings will be increased until our communication platforms are working again.

6.2.4 Client Becomes Unavailable

Probability: 0.8
Loss: 0.2

Scenario: The client is unable to meet with us to discuss the project requirements and to resolve issues that have come in development.

Mitigation: Open and frequent communication with the client will help the team gain awareness of when the client might become unavailable. When anybody on the team has a question for the client, they should record it in the client questions channel on Slack. Items in this channel will be brought up during the next client meeting, or by email.

Contingency Plan: The team will move forward with the project based on the agreed upon highest priority. It is unlikely that the client would be unable to answer emails, so email communication will be used in place of proper meetings where necessary.

6.3 Materialized Risks

The following section describes the ID3 materialized risks. Each materialized risk will be accompanied by a description, a plan for resolution, and its effects on the project.

Trello was unavailable

Description: During this ID, we were unable to access our Trello boards for about half a day. This was not a major issue because it was up and running fairly quickly, but this event exposed our reliance on Trello and Slack.

Resolution: A rough list of requirements for ID3 was made for backup.

Effects: The effects were minimal because the program was only done for a few hours. However, it showed us the ways in which it could affect our project.

Change of Requirements

Description: During our client meetings, many of the requirements for the front-end design were changed. The clients vision was not the same as what we had designed. He showed us an existing app and asked us to follow their design.

Resolution: A large portion of the UI was changed to better fit the client's new requirements. A code review was held to go over the new requirements, and implementation tasks were assigned to the dev team.

Effects: A large amount of front-end code had to be rewritten. The change of our UI broke the entire end-to-end test, which meant that the test team had to rewrite all tests to fit the new requirements.

Team Member Unexpected Absence

Description: During this ID, there were members who got sick and were unable to attend team meetings, bug parties, and code reviews.

Resolution: These team members worked on what they could from home and will attend future code reviews instead. Frequent communication was maintained with all team members who were absent.

Effects: Lower attendance at the bug party may have resulted in less bugs being uncovered. Absences from meetings and code reviews result in less knowledge being shared amongst the team.

Not Enough Code is Peer Reviewed

Description: The amount of peer reviewed work was about 45%. It was decided that this was too low, and the group should aim to achieve a higher percentage of peer reviewed work.

Resolution: A team of "Code Police" was assigned, and will begin reviewing code in ID4.

Effects: Much of the currently existing code contains unresolved issues. This will result in extra work for the development team, as they rewrite undesirable sections of code.

7.0 Meeting Notes

There were no group meetings for ID3, however frequent stand-ups were held both before class time and via Slack. The following link contains our documented meeting notes and pre-class stand-ups:

https://github.com/CMPT371Team1/Documentation/blob/master/Meetings/371-MeetingNotes.docx

For online stand-ups on Mondays, Wednesdays, and Fridays, see our "stand-ups" channel on Slack.