KASPER – ID2 PROCESS DOCUMENTATION

SOFTWARE DEVELOPMENT TEAM:

Project Manager: Tushita Patel

Dev Lead: Kristof Mercier

Test Lead: Jeremy Liau

Build Manager: Christopher Mykota-Reid

Developers: Gaurav Arora, HaoMelody Ma, Dylan Prefontaine, Melody Zhao

Test Team: Christopher May, Ryan Tetland

Documentation: Arianne Butler

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# 1.0 Task Assignments

**Dev Team**

* Below is a link to our team Trello, which outlines the development task assignments for ID2

<https://trello.com/b/01QzUC9M/development-p2-due-feb14>

**Test Team**

* Test Matrix Update 🡪 Ryan and Chris May
* Protractor ID2 Testing 🡪 Ryan and Chris May
* Update flow diagrams 🡪 Jeremy
* Manually Test ID2 🡪 Jeremy, Ryan, and Chris May
* Create use cases 🡪 Jeremy, Ryan, and Chris May
* Defect report update 🡪 Jeremy, Ryan, and Chris May

**Documentation**

* Organization, compilation, and editing of documentation 🡪 Arianne
* API Document 🡪 Gaurav
* Style Docs 🡪 Dylan and Kristof
* Spike Prototype Doc 🡪 Dylan
* Unit Test Doc 🡪 Dylan

# 2.0 Activity Log

The following link contains our group activity log as well as the group member contribution pie chart:

[https://docs.google.com/spreadsheets/d/1g3CfvlI1erdg2zaHZlVyh6uQ-rYQ6L5Cay0YIn2UETk/edit#gid=2085963147](https://docs.google.com/spreadsheets/d/1g3CfvlI1erdg2zaHZlVyh6uQ-rYQ6L5Cay0YIn2UETk/edit%23gid=2085963147)

# 3.0 Inspections ID2

**Inspection 3 - Design & UI**

**Date:** February 10th at 3:30pm

**Summary**: Dylan held an inspection on the front-end design of our system. Although Dylan did not create the user interface alone, he was in charge of managing front-end implementation in this deliverable. Prior to the review, a meeting with the client uncovered many requirements changes to the user interface. These changes directly affected the content of our inspection, so we began by going over integration of the changes. Everyone provided suggestions on the UI and there was open discussion regarding how best to improve the interface while integrating the client’s changes. All of the UI changes discussed are documented both on Git and in the ID3 Requirements section of our Project Documentation. Along with changes to the UI, there were some minor changes to the data structures. The decision to inspect the user interface early on in the project was based on our ID2 goal to familiarize ourselves with the framework.

**Inspection 4 - Testing Plan**

Date: February 13th at 3:30pm

**Summary**: Jeremy held an inspection which covered the testing plan for current and future ID's. A Use Case template was shown to display the detailed test specifications of the transitions in the sequence flow diagrams. End-to-end test progress was shown and demonstrated, noting that changes would be made to accommodate newly developed features in coming IDs. Issues with the unit test runner tool, Karma, were relayed to the development team, and unit testing questions for Osgood were formulated. Plans to update the test matrix, defect report, flow diagrams, and use cases were formalized. The dev leads informed the testers about the extra time required for ID2 development, and testers rearranged the test schedule accordingly. Due to conflicting schedules during this review, another inspection on the same topic will be held on Saturday February 18th for those who missed the first one.

**Inspection 5 - Build Files**

**Date**: February 14th at 4:30pm

**Summary**: Chris Mykota-Reid held an inspection on the build. The overarching goal was to help the rest of the team gain familiarity with the build process. The group reviewed the build as of ID1, and was given a step by step explanation of the files involved. Chris went over the .travis.yml file and the build scripts. The group discussed the meanings of the various headers and commands. It was suggested that some of the script be reformatted and that the build be reverted back to the last successful build upon failure.

# 4.0 Client Communication

**Email Communication**: On Monday February 6th, an invite was sent to Conrad to attend the ID1 demonstration. On Wednesday, he declined our invitation via email. Conrad agreed to meet on Thursday as usual.

**Meeting 4:**

**Date**: Feb 9th

**Time**: Scheduled at 11:30am – Actual start time at 11:50

**Location**: Geology Tim Hortons

**People Present**: Client (Conrad N.), Project Lead (Tushita Patel), Dev Lead (Kristof Mercier), Developer (Dylan Prefontaine)

**Purpose**: Demo the app and gain clarifications

**Summary**: The progress from ID1 was demonstrated to Conrad and he made suggestions about the interface. He also provided us with some existing apps and asked us to follow their design. Conrad suggested that the app should be simpler and look more like Tinder. Later we discussed and agreed that the app should have two modes for buyers and sellers. Conrad is still interested in having a Facebook Login and an option that allows sellers to pay for better advertisement of their Listings.

**Email Communication**: The next weekly meeting with Conrad was scheduled for Feb 16th at 11:30am. At 11:31 of that day, Conrad messaged Tushita to cancel the meeting. To make up for for the lack of communication, an email will be sent to Conrad with the updates and questions.

# 5.0 Risk Assessment

Introduction

Changes to the formal risk assessment from ID1 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. Non-technical risks relate to team management, such as group structure and client communication. For each risk identified, this risk assessment will provide probability of occurrence, estimated severity, possible scenarios, and mitigation and contingency plans.

## 5.1 Technical Risks

5.1.1 Machine Issues

**Probability:** 1.0

**Loss:** 0.5

**Scenario:** A member of the development or test team experiences technical problems resulting in either permanent or temporary loss of their laptop. This risk was inspired by the difficulties experienced when one of our development teams most active members experienced significant problems with his laptop. This resulted in his inability to access the software necessary for building our app. Because all members of the development and test teams work on their own laptops, this risk is both significant and likely.

**Mitigation:** Software relevant to the construction of our project must be made available on the Spinks machines. Our team has spoken with Merlin and requested NodeJs, Cordova, and Ionic 2. Our team now has access to the required software on most of the computers in lab S311. Members are now able to work on the project at any time, without relying on their own machines.

**Contingency Plan:** Team members are now able to work on the machines in S311. If more software is later required for development or testing, the affected group member will set up pair programming sessions until the issue can be resolved. For this ID, our team moved the development deadline forward one day in order to make up for lost time. This puts extra pressure on our test team and we aim to avoid this solution in future.

5.1.2 Too Little Code for Bug Party

**Probability:** 0.7

**Loss:** 0.2

**Mitigation:** This risk is difficult to mitigate because the amount of code written depends on the tasks to complete for ID2.

**Contingency Plan:** The bug party currently scheduled for Saturday February 18th will be postponed until later in the week. This will allow the dev team to continue implementation and build up a more significant code base.

5.1.3 Issues Using New Test Tools

**Probability:** 0.7

**Loss:** 0.2

**Mitigation:** Extensive research of various test tools should be carried our before any attempt at using them. Online tutorials on sample code can be followed by the test team before use on the project.

**Contingency Plan:** Solving unresolved issues with required test tools will be given priority, but in the meantime, manual testing can be performed instead.

5.1.4 Problems with Protractor

**Probability:** 1.0

**Loss:** 0.5

**Scenario:** This risk was inspired by problems experienced by the test team. While setting up end to end tests, the send keys functionality was not working as expected. The test team was unable to fill the app’s text fields with pre-set values for automated testing.

**Mitigation:** Research should be conducted to solve the problem so that automated testing can be implemented.

**Contingency Plan:** If this problem cannot be fixed for a period of time, or at all, testers will input values manually. This is an unfavourable solution that will only be exercised if absolutely necessary.

5.1.5 Compatibility Issues

**Probability:** 0.6

**Loss:** 0.2

**Scenario:** Due to our app’s ability to run on multiple platforms, it will be more challenging to implement extensive testing on all of them.

**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).

5.1.6 Problems with Unit Testing Framework for Python Server

**Probability:** 0.3

**Loss:** 0.3

**Scenario:** The unit tests for the backend server side of the project cannot be automated.

**Mitigation:** Research will be conducted to determine if it is possible to run unit test scripts automatically through the build server using TravisCI.

**Contingency Plan:** If unit testing cannot be automated for the server side of the project, manual test will be run instead.

## 5.2 Non-Technical Risks

5.2.1 Unable to Complete ID2 Tasks

**Probability:** 0.9

**Loss:** 0.1

**Scenario:** Our team is hoping to accomplish many tasks for ID2. With only twelve days in total, we are anticipating that some tasks will need to be put off until ID3. Not all assigned tasks are expected to be completed this ID. Instead, the goal is to complete as many as possible

**Mitigation:** Our team will focus on strong group communication and setting reasonable goals.

**Contingency Plan:** This risk is expected to materialize this ID. All tasks not completed will take priority in ID3.

5.2.2 Build Master Becomes Busy

**Probability:** 0.8

**Loss:** 0.3

**Scenario:** Our build manager Chris Mykota-Reid has specific knowledge of our build. It is likely that he will experience busy periods where he is unable to contribute to the project for a period of time.

**Mitigation:** Our group has designated a vice build master Gaurav. Gaurav will shadow and pair program with Chris periodically. This way, two members understand the build instead of one.

**Contingency Plan:** A vice build master, Gaurav, has been named since ID1.

5.2.3 Group Communication Issues

**Probability:** 0.8

**Loss:** 0.6

**Scenario:** A group member becomes busy and is unable to attend various meetings or stay in communication on Slack. The affected group member may have knowledge pertaining to the continuation of the project.

**Mitigation:** Slack is being used for communication about the project. All team members are required to check Slack at least once per day, as well as perform frequent online stand-ups. This allows the team to set up meetings, pair programming sessions, and hold other communications regarding the project.

**Contingency Plan:** If someone is not communicating effectively with the group, then the team leads will contact the group member and encourage better communication. Stand-up meetings on Slack will help the leads keep track of each group member’s progress.

5.2.4 Team Members Fail to Document Work Accurately

**Probability:** 0.7

**Loss:** 0.3

**Scenario:** A team member is more concerned about finishing their work than documenting what they did. This could also arise from the assumption that everyone understands what needs to be completed, but there is a lack of communication regarding who is doing what.

**Mitigation:** Individual work logs are now set up on Google Spread Sheets. The grades associated with these work logs will hopefully provide incentive to keep them updated.

**Contingency Plan:** If there is a lack of documentation, past work sessions will be documented as accurately as can be remembered. A Document Lead, Arianne, has been assigned since ID1. It is her responsibility to ensure that all documentation is present, updated, and of high quality. She is also in charge of compiling and editing all documentation.

5.2.5 Front-End Development Not Finished Due to Dependency on Back-End Documentation

**Probability**: 0.9

**Severity**: 0.9

**Explanation**: The majority of implementation for ID2 front-end developers can only be completed once they are provided with thorough back-end documentation by back-end developers. Both back-end documentation and front-end development are goals for ID2, and a delay in documentation can delay further development.

**Mitigation**: Front-end developers will increase communication with back-end developers to set realistic deadlines. All developers should remain as informed as possible about both front and back-end development.

**Contingency Plan**: In the event that front-end developers do not receive back-end document on time, there should be enough work set aside to focus on other ID2 goals. This is achievable because ID2 goals were too high for the timeframe.

## 5.3 Materialized Risks

The following section will describe the process of dealing with materialized risks. Each risk will be accompanied by a description, a plan for resolution, and its effects on the project.

Client Becomes Unavailable

**Description**: During ID2, our stakeholder, Conrad, cancelled one of our weekly meetings. Our project manager, dev lead, and various other group members have been meeting with Conrad every Thursday evening to go over progress, requirements, and project issues. These meetings are important because they allow for the planning and organization of our project, ensuring the client is receiving the desired product.

**Resolution**: Contact was maintained with Conrad via email and the team proceeded with the project based on our best understanding of the requirements.

**Effects**: The loss of our weekly client meeting had major effects on our project. Certain work was carried out that our client wanted changed. This meant refactoring completed work, costing valuable time.

Group Communication Issues

**Description**: Due to group member absences during ID2, there was a lack of communication of goals between members of the development team. The dev team planned to set up and polish the user interface, but some team members wanted to do back end development. While these tasks were both valuable and necessary, they were not part of the agreed upon goals for ID2.

**Resolution**: Due to the lack of communication, our team has implemented a Stand-Up channel on Slack, where group members are required to communicate both what they are currently working on, and what they plan to do in the future.

**Effects**: Communication issues set us back slightly in ID2 and caused the group to take these issues seriously.

Team Members Fail to Document Work Accurately

**Description**: There were concerns that documents produced by various team members were not being properly managed.

**Resolution**: Arianne is now full time document manager for our group.

**Effects**: Arianne is no longer on the development team, and the dev team will need to organize themselves accordingly.

Completing All Tasks for ID2

**Description:** Certain tasks taken on during ID2 were not completed by the development deadline.

**Resolution**: ID2 tasks not completed will be given priority in ID3.

**Effects**: ID3 will be heavier due to carry over from ID2.

# 6.0 Spike Prototype

**Overview**: Before committing to a method of data storage on the device, our team decided to do practice implementations using libraries employed by our framework. The goal was to find the method that best suits our needs. Our options were Native Storage (which seemed like the better option due to its similarities with browser's cookies) and using SQLite to hold everything on a local database to be queried as needed.

**Analysis:**

**First Attempt**: We set up storage using the Native Storage module, and it became apparent that we would have to do a rewrite several major system components. Rewriting these components to best support the module was problematic because it added a layer of difficulty in understanding the system as a whole. This option was viable, but not worth adding undesired complexity.

**Second Attempt**: Because the data to be stored is based off of a data structure already in our system, using a database engine seemed promising. We set up storage using SQLite. Not only was it much easier to organize the data, it involved almost no change to our current system.

**Result**: SQLite was the clear choice, but its lack of documentation made current implementation messy. The knowledge gained from these attempts will be utilized in the next deliverable.

# 7.0 Meeting Notes

There was one group meeting for ID2 and frequent stand-ups. 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 daily online stand-ups, see our “standups” channel on Slack.

# 8.0 Meeting Agendas:

The following link contains our meeting agendas:

<https://github.com/CMPT371Team1/Documentation/blob/master/Meetings/371-MeetingAgendas.docx>

# 9.0 Pair Programming Sessions

The following link contains our documented pair programming sessions:

<https://github.com/CMPT371Team1/Documentation/blob/master/Meetings/Pair%20Programming%20sessions>