

# **CPS1010 - Collaborative Practical Project**

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# 1 Introduction

The Agile Process is nowadays one of the most commonly used software development methodologies. It ensures a constant interaction between the client and user thus resulting in a higher end-product satisfaction. The aim of this assignment was to experience this process in a similar environment as to that in a workplace by carrying out sprints on a regular basis together with iterations. In addition weekly stand-up meetings were held between the team, throughout which scrum poker was used to establish user story points. This was done to ensure a better organization and order in which the tasks were executed. Throughout the assignment customer satisfaction was prioritised and adapting as a team to evolving user requirements was critical.

## 2 Project Process

### 2.1 First meeting

A product inception meeting was set and the project aim was clarified. The request was that of creating an app together with a website in order to assess the behaviour of software developers. The latter can answer questions via the app which the researcher publishes via the website. Following this meeting it was agreed that the work was to be split up as shown hereunder

- Chris Frendo and Daniel Sumler on the API
- Esther Spiteri and Francesca Chircop on the APP
- Kelsey Marie Debono and Tristan Oa Galea on the Website

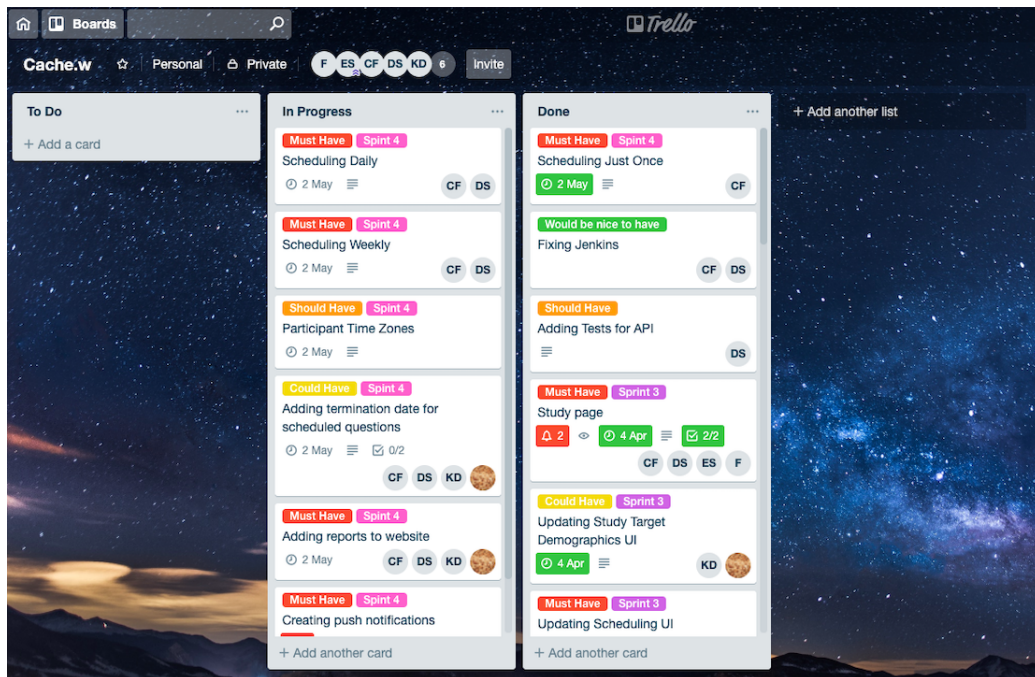
Weekly iterations were set and in each one every team member answered the following three questions

1. What has been carried out in the past week?
2. What are the current plans for the coming week?
3. What problems were encountered?

Also in each iteration prioritisation (MoSCoW rules) *Must have*, *Should have*, *Could have*, *Would be nice have* were discussed for every user story.

## 2.2 Iteration 0

During this iteration it was agreed that the team will use Trello as a Team Wall in order to be more organised by using checklists and due dates.



A github repository [<https://github.com/ChrisFrendo/Cachew>] was used for version control. Every team member installed the respective tools and started doing research.

- API
  - Node.js
  - MongoDB
  - Postman
- APP
  - Android SDK
  - Ionic framework
  - AngularJS
- Website
  - HTML 5

## 2.3 Iteration 1

### Creation of Studies

MoSCoW: Must Have

Story points: 40

#### Description

In order to allow surveyors to create studies,  
As a surveyor,  
I want to be able to create studies

#### Acceptance Criteria

Given I am a surveyor,  
When I fill in the create study form,  
And it is filled in correctly,  
Then a new study should be created

### Register

MoSCoW: Must Have

Story points: 20

#### Description

In order to allow users to use the website or application,  
As a participant,  
I want to be able to register for an account

#### Acceptance Criteria

Given I am an unregistered user,  
When I fill in the registration form,  
And I fill it in correctly,  
Then I should be registered as a participant/surveyor

## 2.4 Iteration 2

### Researchers only can login using website

MoSCoW: Must Have

Story points: 8

#### Description

In order to allow only researchers to access the website,  
As a participant,  
I should not be allowed to login

#### Acceptance Criteria

Given I am a registered researcher,  
When I try to login on the application,  
Then I should not be allowed,  
And shown an error message,

Given I am a registered participant,  
When I try to login on the application,  
And I enter my login credentials correctly,  
Then I should be logged in

### Participants only can login using app

MoSCoW: Must Have

Story points: 13

#### Description

In order to allow only participants to access the application,  
As a researcher,  
I should not be allowed to login

#### Acceptance Criteria

Given I am a registered participant,  
When I try to login on the website,  
Then I should not be allowed,  
And shown an error message,

Given I am a registered researcher,  
When I try to login on the website,  
And I enter my login credentials correctly,  
Then I should be logged in

**Delete Questions if Study POST fails**MoSCoW: Should HaveStory points: 13**Description**

In order to prevent having questions not linked to a study,  
When creating a study is not succesful,  
The website should send a delete request to delete the the submitted questions

**Login Tokens**MoSCoW: Should HaveStory points: 13**Description**

In order to fetch only the logged in user's data,  
The system should store some sort of token or session id on the logged in user

**Study subscriptions**MoSCoW: Must HaveStory points: 8**Description**

In order to allow participants to subscribe to certain studies,  
As a participant,  
I should be allowed to choose which studies I want to subscribe to

**Acceptance Criteria**

Given I am a registered participant,  
When I click on a subscribe button on a particular study,  
Then I should be subscribed to that study

**Subscription Management**MoSCoW: Must HaveStory points: 40**Description**

In order to allow only participant to manage their subscriptions,  
As a participant,  
I should have a page where I can view the studies I follow

**Acceptance Criteria**

Given I am a registered participant,  
When I try access the subscriptions page on the app,  
Then I should see all of my subscribed studies,  
And there should be a way to unsubscribe from a particular study,

**Scheduling Questions**MoSCoW: Must HaveStory points: 13**Description**

In order to schedule questions,  
As a researcher,  
I should have the option to specify the time to send particular  
questions of my study

**Acceptance Criteria**

Given I am a registered researcher,  
When I create a study,  
Then I should be allowed to specify a time and date to ask each of my  
questions (in my own time zone)



**Study Search**

MoSCoW: Would be nice to have

Story points: 40

**Description**

In order to allow participants to search for studies,  
As a participant,  
I should have a page in the app where I can search for certain studies based on their genres, targets and title.

**Acceptance Criteria**

Given I am a registered participant,  
When I am searching for study,  
Then I should be shown studies based on my search criteria.

**Study target demographics**

MoSCoW: Must Have

Story points: 13

**Description**

In order to allow researchers to select their target demographic for a particular study,  
As a researcher,  
I should be allowed to specify my targets based on their demographics (age, country, industry, job role, gender etc...) or specify that this is a generic study

**Acceptance Criteria**

Given I am a registered researcher,  
When I am creating a study,  
Then I should be given the option to specify my target demographic

## 2.5 Iteration 3

### Targeted Study Search

MoSCoW: Should have

Story points: 20

#### Description

In order to search for studies,  
As a user,  
I should see a list of studies which are targetted to my demographics

#### Acceptance Criteria

Given I am a user,  
When I go on the new studies page,  
Then I should see only studies which are targetted to my profile

N.B. API should have some sort of checking to only send studies which are targetted to the logged in user

### Study questions notification

MoSCoW: Would be nice to have

Story points: 40

#### Description

In order to know when a question is available to answer,  
As a user,  
I should see the number of questions next to the study

#### Acceptance Criteria

Given I am a user,  
When I subscribe to a study,  
Then I should see the number of questions available

**Flag to indicate scheduled questions**MoSCoW: Would be nice to haveStory points: 20**Description**

In order to know if a study has scheduled questions,  
As a user,  
I should see an icon next to my subscribed studies to indicate that  
this study has scheduled questions

**Acceptance Criteria**

Given I am a user,  
And I am subscribed to at least one study,  
When I open the dashboard page,  
Then I should see my list of subscribed studies,  
And next to each study which has scheduled questions there should  
be an icon to indicate this.

N.B. API needs to send a boolean for front end to interpret

**Multiple Choice**MoSCoW: Must HaveStory points: 5**Description**

In order to allow researchers to ask a multiple choice question  
As a researcher,  
I should be allowed to input the different choices a user can choose in  
a single  
text box delimited by a new line character

**Acceptance Criteria**

Given I am a registered researcher,  
When I am creating a study,  
Then I should be given the option to ask a multiple choice question

**Updating Scheduling UI**MoSCoW: Must HaveStory points: 20**Description**

In order to allow researchers to schedule different questions at different times,

As a researcher,

I should be allowed to specify my preferred scheduling times for different questions from a drop down menu. The options in this menu include: 'Just Once', 'Daily', 'Weekly', 'Monthly'.

**Acceptance Criteria**

Given I am a registered researcher,

When I am creating a study,

I should be able to schedule questions I create based on a date and a frequency preference

**Updating Study Target Demographics UI**MoSCoW: Could HaveStory points: 8**Description**

In order to allow researchers to select their target demographic for a particular study,

As a researcher,

I should be allowed to specify my targets based on their demographics (age, country, industry, job role, gender etc...) or specify that this is a generic study, allowing the researcher to choose multiple targets

**Acceptance Criteria**

Given I am a registered researcher,

When I am creating a study,

Then I should be given the option to specify more than one target demographic

**Study page**MoSCoW: Must HaveStory points: 40**Description**

In order to answer questions,  
As a user,  
I should have a question page

**Acceptance Criteria**

Given I am a user,  
When a study has a question,  
Then I should be allowed to answer it through a question page

## 2.6 Iteration 4

### Adding Tests for API

MoSCoW: Should Have

Story points: 8

#### Description

Add tests using postman to be used when building job in jenkins

### Scheduling Just Once

MoSCoW: Must Have

Story points: 20

#### Description

In order for the app to show just once scheduled questions when their time comes,

The server should check whether a question's time is within 5 mins of the current

N.B: The Server should also take into account the timezones of both the researcher when creating the question and the user who is requesting the question.

**Adding termination date for scheduled questions**MoSCoW: Could HaveStory points: 20**Description**

In order to be able to input a termination date for a daily/weekly scheduled question,

As a researcher,

I should have an input field where I can enter the termination date for my question

**Acceptance Criteria**

Given I am a logged in researcher,

When I am creating a new question for a study,

And I selected a daily or weekly schedule,

Then an input field should pop up where I can enter the termination date for my question

**Participant Time Zones**MoSCoW: Should HaveStory points: 13**Description**

In order to receive questions at the correct time,

The system should push questions to the participants according to their timezones

**Scheduling Weekly**MoSCoW: Must HaveStory points: 40**Description**

In order for the app to show daily scheduled questions when their time comes,

The server should check whether a question's scheduled time is within 5 mins of the current time

N.B: The Server should also take into account the timezones of both the researcher when creating the question and the user who is requesting the question.

**Scheduling Daily**MoSCoW: Must HaveStory points: 40**Description**

In order for the app to show daily scheduled questions when their time comes,

The server should check whether a question's scheduled time is within 5 mins of the current time

N.B: The Server should also take into account the timezones of both the researcher when creating the question and the user who is requesting the question.



## 2.7 Wire Frames

The image displays two mobile app wireframes side-by-side. The left wireframe, titled "SurveySays Signup", shows a registration form with the following fields: Gender (with male and female icons), Date of Birth (with a date picker icon), Country (with a dropdown arrow), Time Zone (with a dropdown arrow), Student (with a checkbox), Industry (with a dropdown arrow), Job Role (with a dropdown arrow), Years of Experience (with a text input), and Salary (with a dropdown arrow). A "Next" button is located at the bottom. The right wireframe, titled "Sign Up", shows a form with three text input fields: "Generate Username" (with a search icon), "Password", and "Confirm Password". Below these fields are "Back" and "Confirm" buttons.

Figure 1: Sign up page including details page, username generator & password setup



Figure 2: Log in page including sign up button & user dashboard page including suggested studies if no subscribed to studies

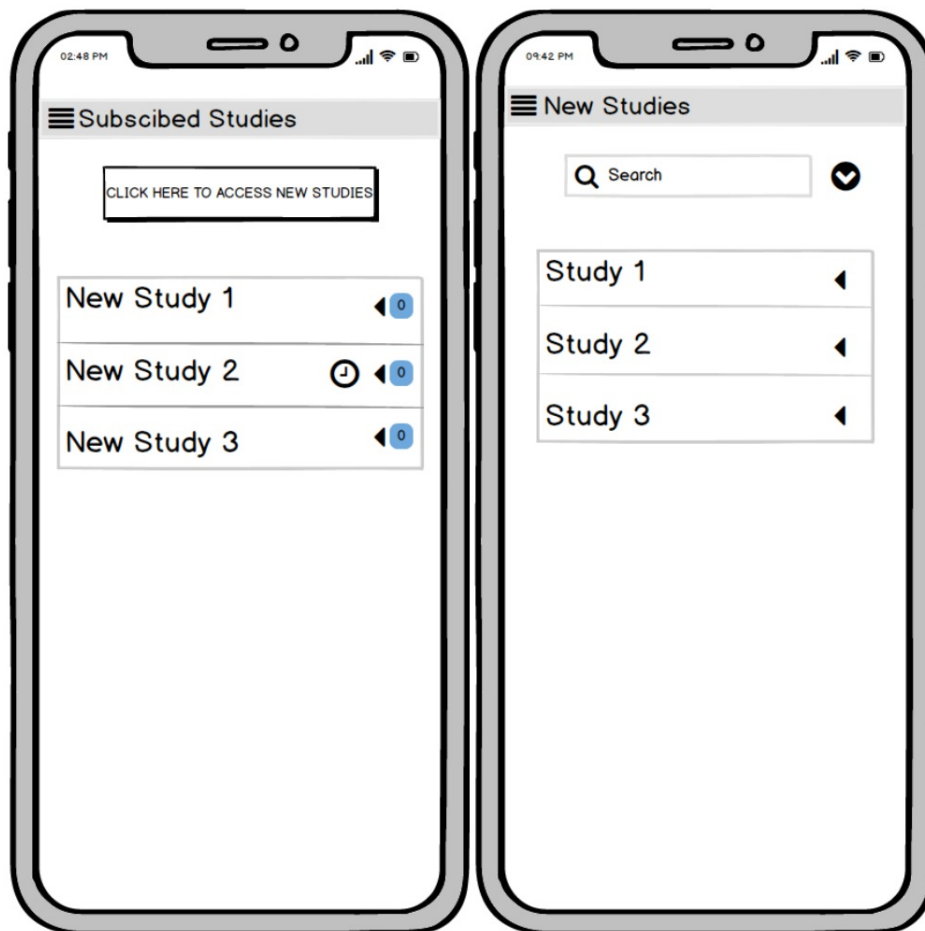


Figure 3: Subscribed Studies page including a button to access more studies New Studies page including a search box



Figure 4: Study pages including one with a slider (Rating question) and boolean type



Figure 5: Study pages including one with an open ended question and multiple choice question

## 3 Process Evaluation

### 3.1 Limitations

- App
  - Back button to exit the APP
  - Google plugin issue when it came to accessing the received push notifications
  - Automatically set time zone for user
  - Logout
- API
  - Delete study option
  - Delete user
  - No forgot password option
- Website
  - Suboptimal user experience

## 4 Bibliography