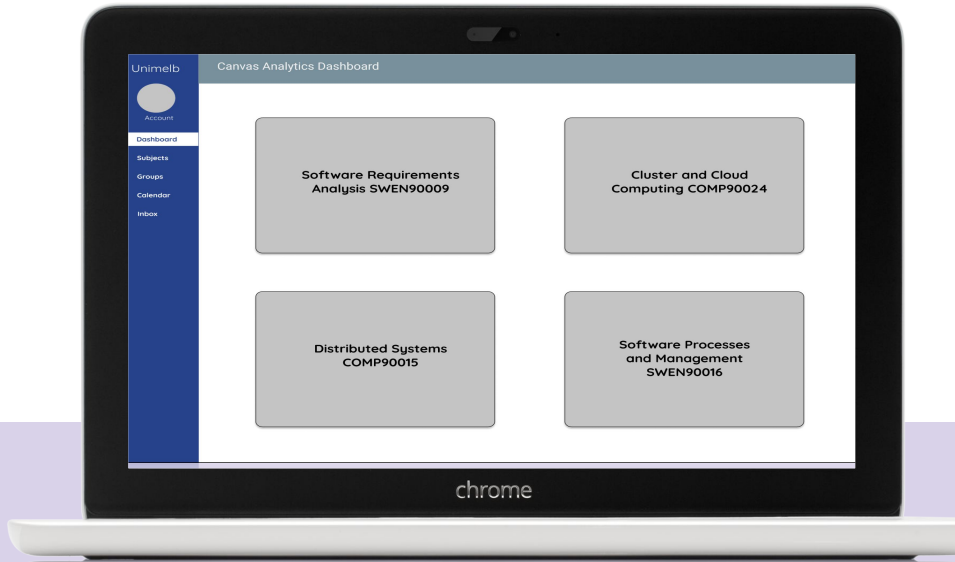


SWEN90009

CANVAS L5P ANALYTICS

Team Wombat



OUTLINE

Introduction

User Story

User Story Map

Digital Prototype

Data Samples

Handover

INTRODUCTION

MOTIVATION

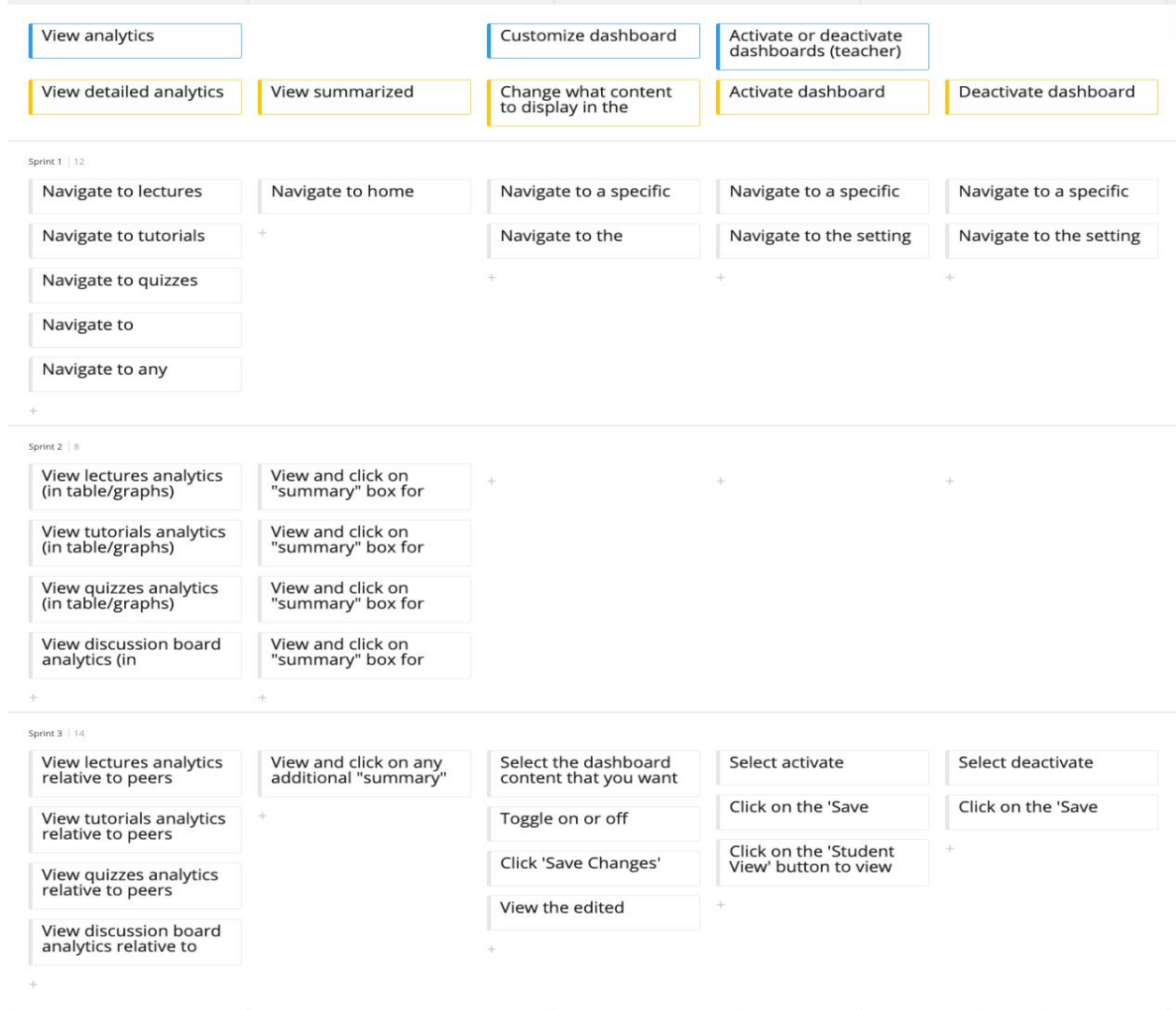
- Reflective learning
- Canvas Dashboard
- Learning analytics
- Encourage to be mindful

USER STORY

ID	As a...	I want to...	so that...	Size Estimation	MoSCoW priority
1	Lecturer/Teacher	activate/deactivate dashboards for subjects	I can customize what students can view	Small	Must Have
2	Student	personalize/filter my dashboard	I can see metrics only relevant to myself	Small	Should Have
3	Student	view if I am doing all the quizzes	I am on track and fully utilize Canvas as a learning tool/resource	Small	Must Have
4	Student	view improvements in my performance on quizzes	improve my understanding of the subject	Small	Must Have
5	Student	know if I have missed out on opening/viewing any lectures or tutorials	I can see if I'm up to date	Small	Must Have
6	Lecturer/Teacher	change what content to display in the dashboard	I can make the dashboard more resourceful instead of displaying every single data that has been gathered	Medium	Should Have
7	Student	know how long I spent on a lecture/tutorial/module	I can know how long I spend studying each topic	Medium	Must Have
8	Student	view if I have missed out on any additional modules/links	I can enhance my learning opportunities	Small	Must Have
9	Student	see how I am interacting with Canvas	compared to my goals	Medium	Could Have

– **How many requirements covered in digital prototype**

USER STORY MAP



DIGITAL PROTOTYPE

ACCEPTANCE CRITERIA

User Story	Acceptance Criteria ID	Given	When	Then
As a student, I want to view if I am doing all the quizzes, so that I am on track and fully utilise Canvas as a learning tool/resource	3.1	I have not done any quizzes for a subject	I check 'Quizzes' section in this subject's dashboard	I can see all missed quizzes and their due date

ACCEPTANCE TEST

Step #	Acceptance Test ID	Acceptance Test
1	3.1.1	Janice logs in to canvas using student account
2	3.1.2	Janice enters Dashboard for a subject
3	3.1.3	Janice selects Quizzes section
4	3.1.4	Janice sees a list of missed quizzes and their due date

DIGITAL PROTOTYPE DEMO...

ACCEPTANCE CRITERIA

User Story	Acceptance Criteria ID	Given	When	Then
As a student, I want to personalise/filter my dashboard, so that I can see metrics only relevant to myself	2.1	I have filtered out a section in my dashboard for a subject	I check my dashboard home page	I cannot see that section in dashboard home page

ACCEPTANCE TEST

Step #	Acceptance Test ID	Acceptance Test
1	2.1.1	Janice enters Dashboard for a subject
2	2.1.2	Janice selects settings page
3	2.1.3	Janice turns off a section
4	2.1.4	Janice cannot view that section in the home page

DIGITAL PROTOTYPE DEMO...

ACCEPTANCE CRITERIA

User Story	Acceptance Criteria ID	Given	When	Then
As a student, I want to know if I have missed out on opening/viewing any lectures, so that I can see if I'm up to date	5.1	I have not viewed any lectures for a subject	I check 'Lectures' section in this subject's dashboard	I can see how many lectures missed

ACCEPTANCE TEST

Step #	Acceptance Test ID	Acceptance Test
1	5.1.1	Janice logs in to Canvas using student account
2	5.1.2	Janice enters Dashboard for a subject
3	5.1.3	Janice selects Lecture section
4	5.1.4	Janice sees the number of missed lectures

DIGITAL PROTOTYPE DEMO...

ACCEPTANCE CRITERIA

User Story	Acceptance Criteria ID	Given	When	Then
As a student, I want to know how long I spent on a lecture/module, so that I can know how long I spend studying each topic	6.1	I have viewed and checked lecture/modules of a subject everyday	I check 'Lectures' section in this subject's dashboard	I can see total watching time for lectures and time spent for each module

ACCEPTANCE TEST

Step #	Acceptance Test ID	Acceptance Test
1	6.1.1	Janice logs in to Canvas using student account
2	6.1.2	Janice watches a lecture recording for a subject
3	6.1.3	Janice enters Dashboard for this subject
4	6.1.4	Janice selects Lecture section
5	6.1.5	Janice sees the total watching time increased

DIGITAL PROTOTYPE DEMO...

DATA SAMPLES

Useful API endpoints:

- Live events
- Page views
- Quiz statistics
- Assignment score statistics

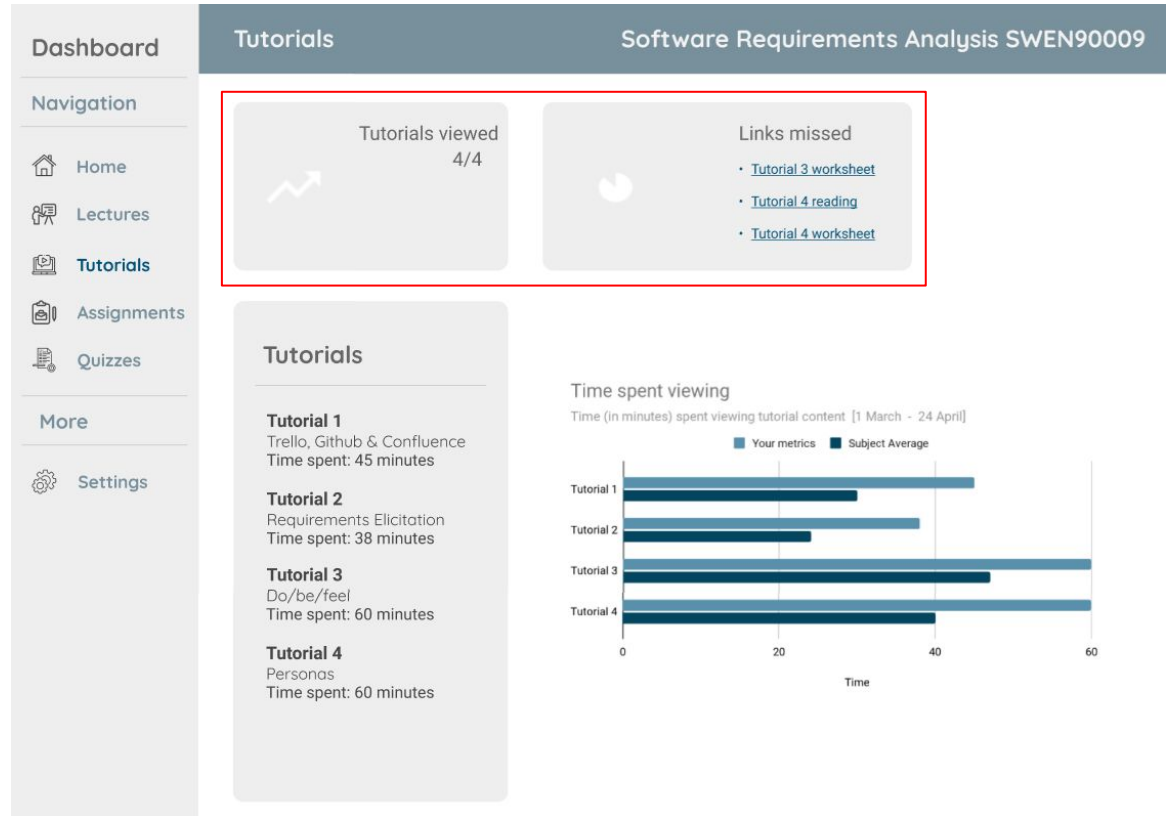
API: LIVE EVENTS

Role in application

- Tracking number of clicks/views on particular links

Example/s

- Number of clicks on lecture links, module links etc.



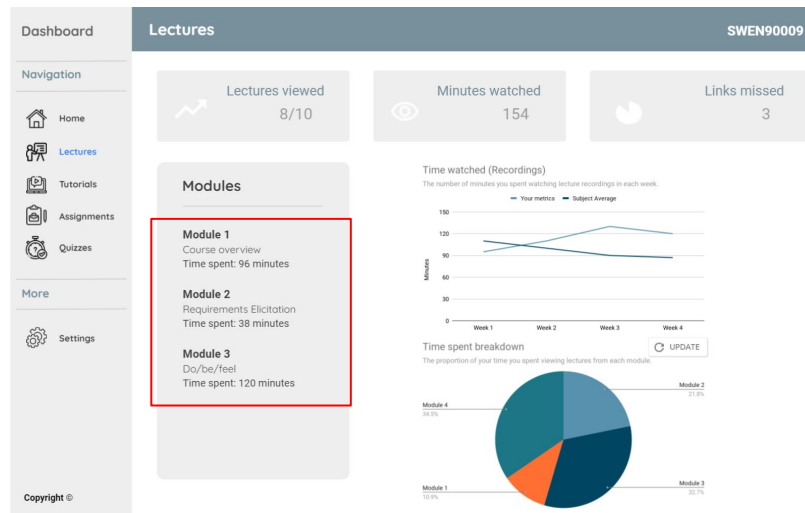
API: PAGE VIEWS

Role in application

- Tracking how long a student spends viewing particular pages

Example/s

- Time spent on lecture/tutorial pages



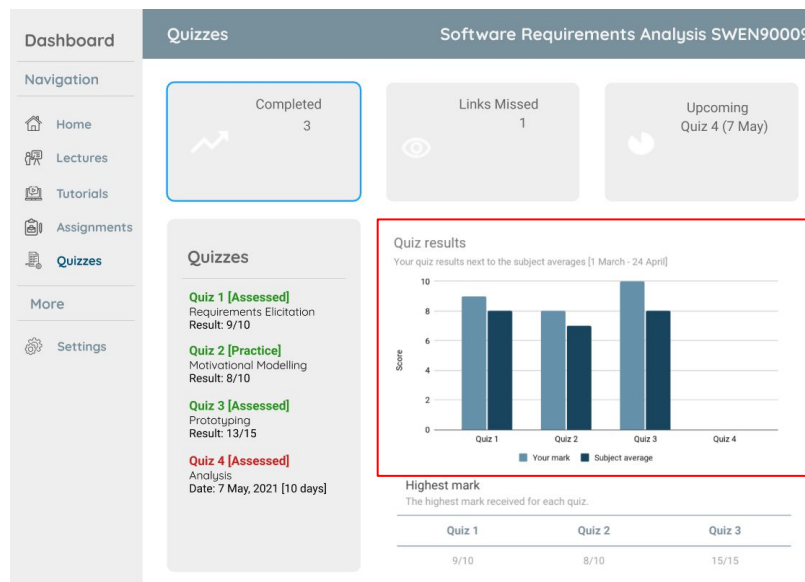
A PageView object looks like:

```
// The record of a user page view access in Canvas
{
  // A UUID representing the page view. This is also the unique request id
  "id": "3e246700-e385-0130-51de-02e33a501ef",
  // If the request is from an API request, the app that generated the access
  // token
  "app_name": "Canvas for iOS",
  // The URL requested
  "url": "https://canvas.instructure.com/conversations",
  // The type of context for the request
  "context_type": "Course",
  // The type of asset in the context for the request, if any
  "asset_type": "Discussion",
  // The rails controller that handled the request
  "controller": "discussions",
  // The rails action that handled the request
  "action": "index",
  // This field is deprecated, and will always be false
  "contributed": false,
  // An approximation of how long the user spent on the page, in seconds
  "interaction_seconds": 7.21,
  // When the request was made
  "created_at": "2013-10-01T19:49:47Z",
  // A flag indicating whether the request was user-initiated, or automatic (such
  // as an AJAX call)
  "user_request": true,
  // How long the response took to render, in seconds
  "render_time": 0.369,
  // The user-agent of the browser or program that made the request
  "user_agent": "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_8_5) AppleWebKit/536.30.1 (KHTML, like Gecko) Version/8.0.5 Safari/536.30.1",
  // True if the request counted as participating, such as submitting homework
  "participated": false,
  // The HTTP method such as GET or POST
  "http_method": "GET",
  // The origin IP address of the request
  "remote_ip": "173.194.46.71",
  // The page view links to define the relationships
  "links": {"user":1234,"account":1234}
}
```

API: QUIZ STATISTICS

Role in application

- Quiz information regarding entire cohort
- Enables a comparison to peers



Example/s

- Quiz graphs
- Quiz “completed” statistics

A QuizStatisticsSubmissionStatistics object looks like:

```
// Generic statistics for all submissions for a quiz.
{
  // The number of students who have taken the quiz.
  "unique_count": 3,
  // The mean of the student submission scores.
  "score_average": 4.333333333333333,
  // The highest submission score.
  "score_high": 6,
  // The lowest submission score.
  "score_low": 3,
  // Standard deviation of the submission scores.
  "score_stddev": 1.24721912892465,
  // A percentile distribution of the student scores, each key is the percentile
  // (ranges between 0 and 100%) while the value is the number of students who
  // received that score.
  "scores": {"50":1,"34":5,"100":1},
  // The mean of the number of questions answered correctly by each student.
  "correct_count_average": 3.666666666666667,
  // The mean of the number of questions answered incorrectly by each student.
  "incorrect_count_average": 5,
  // The average time spent by students while taking the quiz.
  "duration_average": 42.33333333333333
}
```

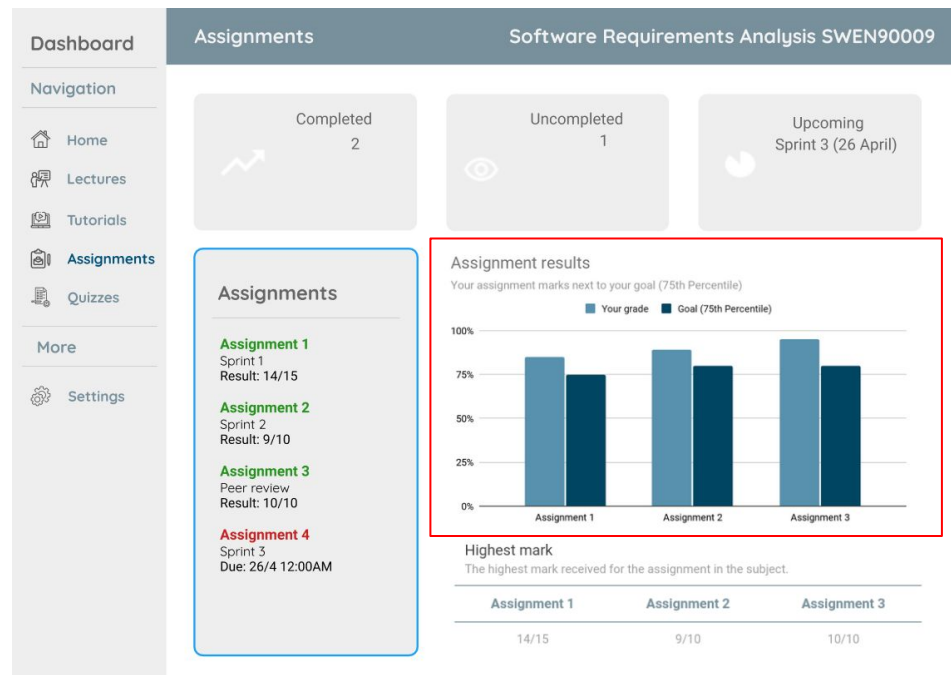
API: ASSIGNMENT SCORE STATISTICS

Role in application

- Information for individual students

Example/s

- Assignment statistics for the student
- Assignment page graph



A ScoreStatistic object looks like:

```
// Used by Assignment model
{
  // Min score
  "min": 1,
  // Max score
  "max": 10,
  // Mean score
  "mean": 6
}
```

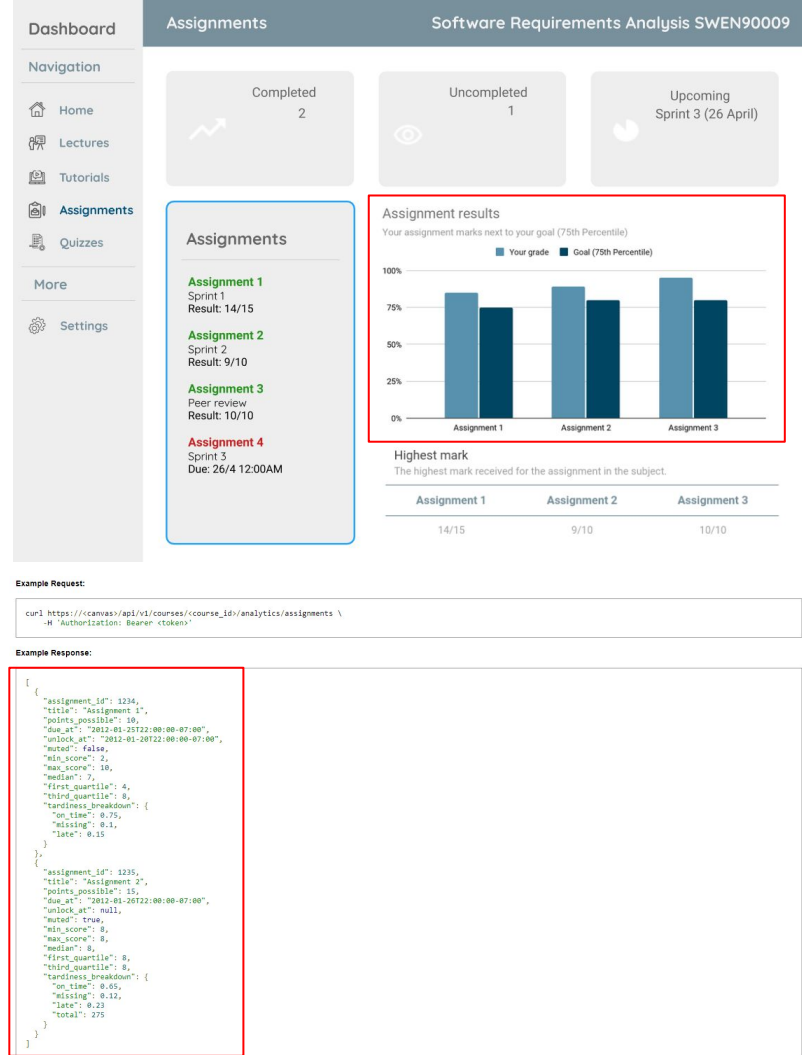
API: ASSIGNMENT SCORE STATISTICS #2

Role in application

- Information about entire cohort
- Show course level assignment data

Example/s

- Showing subject averages/top quartile on the graphs



HANDOVER

WHAT NEXT WITH SWEN90014?

- Main focus will be on linking the Canvas API endpoints with learning analytics on the front end development
- Next milestones will involve implementation over several sprints along with quality assurance and user acceptance testing before final deployment.

WEEK 12 DELIVERABLES

- Project Overview/Requirements Elicitation
- Acceptance Criteria
- Acceptance Tests
- Canvas API Endpoints Overview
- Digital & Paper Prototypes
- Goal Model
- Moodboards
- Motivational Models
- Traceability Matrix
- User Stories
 - User Stories Map
 - User Journey Maps

HANDOVER PROCESS

- All documents and process artefacts will be available on the github repository
- A README file will be created to explain the final repository structure and final release
- A ZIP file containing all artefacts will be sent to the client

QUESTIONS?

THANK YOU!