A Student Friend ELO

Plan of Approach

Group DEV-A5-1

Version 0.2   Due: 14 May 2021

Client: Floor W. / Jan-Chris H.

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1 Introduction

Project Detail

As Saxion is gradually expanding and evolving, they want to be the best university in the Netherlands, preparing students for the working fields in the future. Saxion strives to render technologies into all professional profiles, while constantly adapting to the latest developments. The Saxion Education Model (SOM) is their first step to approach and materialize that goal. SOM is expected to develop an inspiring and future-poof education, that is distinctive and fits the issues of the future.

ACT (Academie Creative Technologie) is quite far along with the implementation of SOM, and now would like to closely examine their digital learning environment (Blackboard, Teams, Qualtrics, etc.) with the aim of creating a seamless integration between the SOM and the supporting digital learning environment. The academy is also keen to enhance the digital learning environment with learning analytics. The intelligent use of learning analytics will expand the opportunities for personalized learning for each student.

Project Analysis

We conducted students survey and results show that top 3 problems are with

1. Modules

2. Blackboard

3. Teachers

Since we cannot change the modules or teachers, we are going to re-create blackboard and go further to create one portal which will include mijn.saxion.nl

From the list which of Saxion's learning environment are you NOT satisfied with?
28 responses

Category	Value
Facilities	4 (14.3%)
Blackboard	12 (42.9%)
Building	3 (10.7%)
Teachers	9 (32.1%)
Modules	13 (46.4%)
Number of sockets through the...	1 (3.6%)
No	1 (3.6%)
Students - they lack initiative a...	1 (3.6%)
nothing	1 (3.6%)

What is wrong with blackboard?
28 responses

Category	Value
Nothing is bad	7 (25%)
Bad design	9 (32.1%)
Bad navigation	10 (35.7%)
Everything is bad	6 (21.4%)
Bad mobile compatibility	10 (35.7%)
Hard to navigate	3 (10.7%)
sometimes laggy	1 (3.6%)
Way too laggy.	1 (3.6%)
Video quality for collaborate is...	1 (3.6%)
Some modules are divided in t...	1 (3.6%)

The survey results show that top issues are:

1. Mobile access
2. Bad navigation
3. Bad design
4. Laggy

Project Goal

The final goal for this project is for the team to research and produce a proposal for the described situation that is to the satisfaction of the client, which should include the following goals in mind:

- To develop a broad-based proposal for an ACT-wide digital learning environment.
- To provide "white paper" on how learning analytics can enhance personalized learning within ACT.
- To provide the client with a PoC(proof of concept) (for at least one module) to demonstrates the important aspects of a digital learning experience.
- To provide a PoC of a Learning management system with a good user experience.

2 Stakeholders

Client

Floor Weijman is a lecturer at Saxion ACT, who is also the client for this project.

Floor Weijman   f.r.wijman@saxion.nl

Jan-Chris Hullegie   j.c.m.hullegie@saxion.nl

Project Mentor

Dick Heijink is a lecturer at Saxion ACT, who is also the mentor/coach for this project.

Dick Heijink   j.d.heijink@saxion.nl

Project Team

DEV-A5-1 includes the following members, who are all currently enrolled at Saxion as ICT students:

Keith I.   **487130@student.saxion.nl**

Mykhailo Galenda   **470934@student.saxion.nl**

Sefanja Hoon   **418136@student.saxion.nl**

Jane Nguyen   **479411@student.saxion.nl**

Tuan Nguyen   **479867@student.saxion.nl**

Yang Cheng   **474340@student.saxion.nl**

3 Contents

User Stories

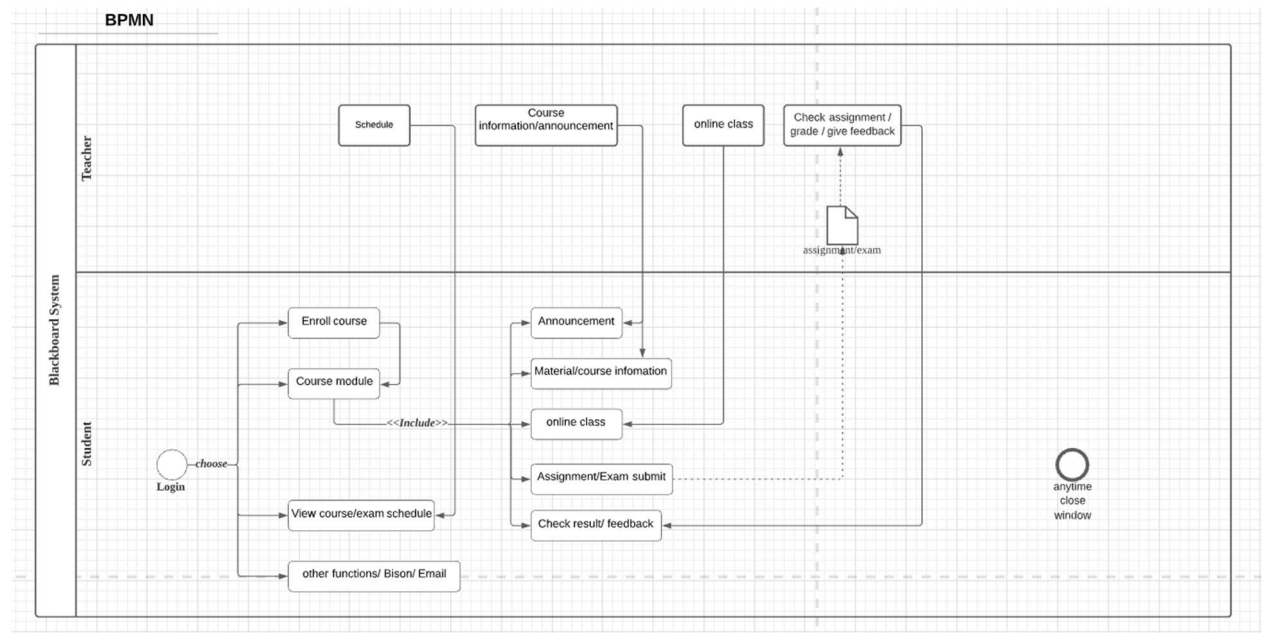| Code	Title	User Stories	Acceptance criteria	Priority
US1	Login	As a user, I want to have an account and be able to log in to mySaxion so that I know it is secured and no one will get my info	1. Password and username are secured 2. Verification process is done quickly	Must
US2	Login	As a user, I want to be identified my role and be navigated to students/teacher's platform	1. System identifies users as student or teacher by their usernames	Could
US3	Enrol	As a student, I want to enrol for the courses I will be taking, to be more specific, I want to find all the courses and register the one I want	1. Students can find all course in their major 2. Students can enrol themselves to the courses that they want 3. After each enrolment, students will be able to see its information	Must
US4	Schedule	As a student, I want to check my schedule easily so that I will be able to manage my time and have better planning	1. Schedule is one of the major features and is shown in main page 2. Schedule is specific and arranged clearly	Must
US5	Schedule	As a student, I want to check time, date of upcoming exams, and have a reminder for them so that I will not forget to attend any exams	1. Exam schedule is clear, and students can see date and time of the exams 2. A reminder pops up when the exams are coming	Could
US6	Courses	As a student, I want to view the course information, instructions, and slides so that I can self-study and catch up with the knowledge I missed	1. Course's info and working files are included in the course page 2. Announcements are updated for students	Must
US7	Courses	As a student, I want to take quizzes or sample tests before exams and get feedback from teachers so that I can know where I am at and if I can pass upcoming exams	1. Sample tests are visible in course module 2. After taking the sample tests, students are given feedback from teacher	Must
US8		As a student,	1. Students can attend class through our BB	

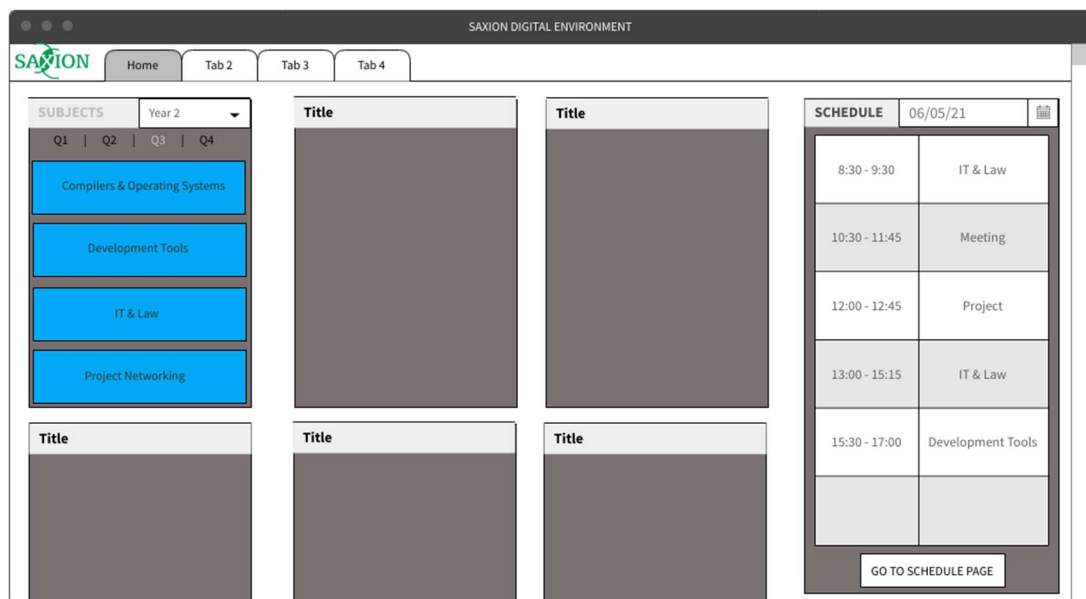|				
	Online class	I want to attend class online and see recordings of previous lessons so that I can catch up with the amount of knowledge and revise information	2. Recordings are saved after all online lessons and students can find them easily	Could
US9	Tinder	As a student, I want to reach teachers and other students by their contacts when I have trouble or need help with assignments	1. Users can find students or teacher by their names 2. Emails and phone numbers of teachers/students can be found	Should
US10	Exams	As a student, I want to access exams/assignment information and have submission through the webapp so that I can submit my work and get graded	1. Students can submit their work via the web app 2. Teachers can grade students through their submissions	Should
US11	Results	As a student, I want to have a platform which stores all my grades and calculates my education credits	1. Bison stores all grades and credits that a student has obtained 2. Students can access Bison directly through the webapp and see their grades and credits there	Must
US12				
US13				

Product Back Log

Designs
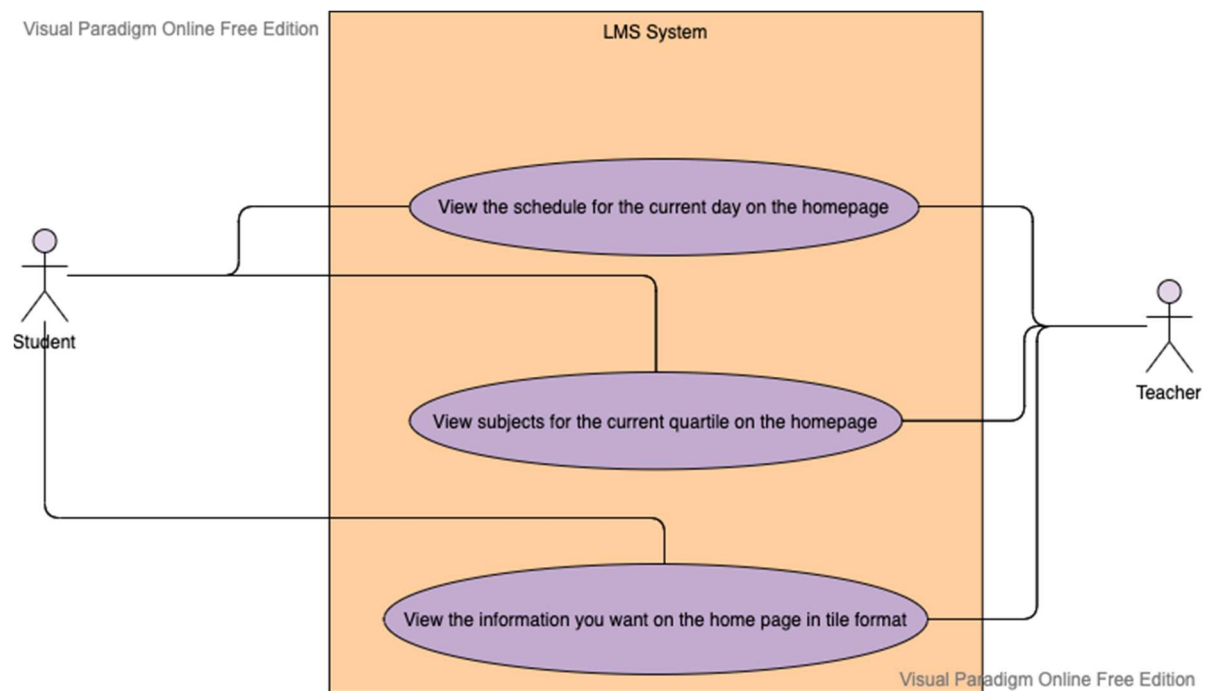
Activity diagram

BPMN

Wireframes

Use Cases
link to edit

Deliverables

We are going to deliver following items at the end of the project:

- Plan of Approach/Project Plan
- A PoC of a Learning management system with a good user experience
- System Portfolio, contains:
    o   Functional design
    o   Technical design
- Project Portfolio, contains:
    o   Code of Conduct
    o   Scrum artifacts
- Personal reflections

4 Approach

ICT Research Methods

After discussing among ourselves, we have chosen 14 cards in total from the CMD Methods Cards.

1. Field – 2 cards

   a. Day in the life
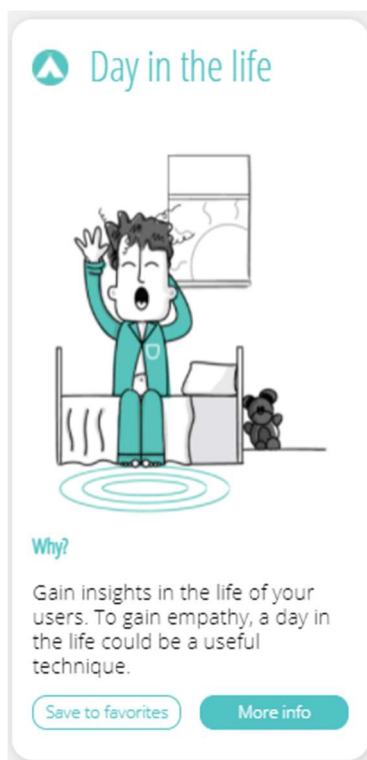
We have chosen 'Day in the life card' because it is important to have insights of users experiencing the current system to pinpoint its strengths and weaknesses. With this project, there is plenty of room for us to produce our own ideas to improve the current learning environment, this method would be highly valuable.

- Activities:
o Navigate through Blackboard and note down their 'journey' throughout the website
o Discuss notes among members
o Determine the common problems
- Results:
o Identified strengths and weaknesses of the current version

   b. Survey

To help improve the experience of users, it is important to listen to their feedbacks.

- Activities:
o Brainstorm for questions that is relevant to the issues (Preferably multiple-choice questions)
o Choose about 7 questions from the provided questions from members.
o Decide on which survey tool will be use
o Create and share the survey to the target group
o Analyse responses from the users
o Draw conclusion from the analytics
- Results:
o A survey consists of questions relevant to the project
o Responses from users
o Clearer insights of more important aspects that need improvements

2. Lab – 4 cards

A/B Testing The process of comparing two version of a product (i.e., website) and evaluating the differences in performance is particularly important to our project. Any adjustments of the interface can create different effects on user's experience, but this is quite hard to detect in a usability test. With this method in place, it will help compare student's behaviour between various software models.

- Activities:
o Observe and analyse the performance of the current version
o Identify which aspect will be the main goal for the test
o Analyse the data and produce data-backed hypothesis
o Create a different variation from the current website
o Give one group the 'control' version and one group the 2nd variant

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- o Analyse the results from the test
- o Apply the winning version
- Results:
  - o Thorough analysis of current performance
  - o A final preferred version of the website

a. Online Analysis
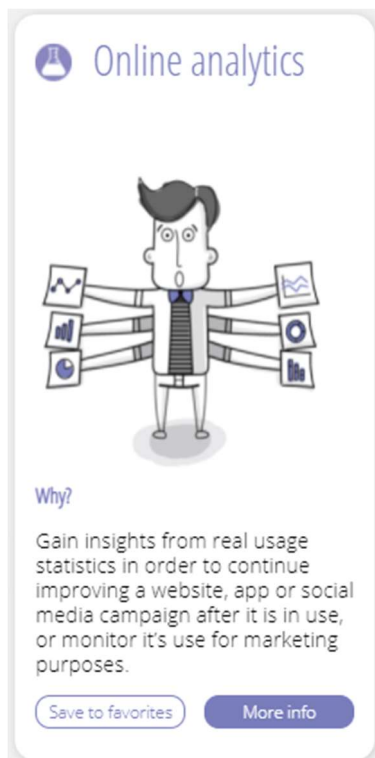
Smart data processing techniques are key to effectively improve the website, as we can gain insights from real usage statistics.

- Activities:
- o Define some goals of the analysis
- o Produce an 'ideal' Blackboard journey from the very first to last steps
- o Observe the actual journey of a new Blackboard user
- o Compare the actuality to the ideal journey
- o Analyse the data/information gathered
- o Brainstorm for potential causes and solutions
- Results:
- o In depth knowledge of the problems
- o Clearer idea of what needs to be improved
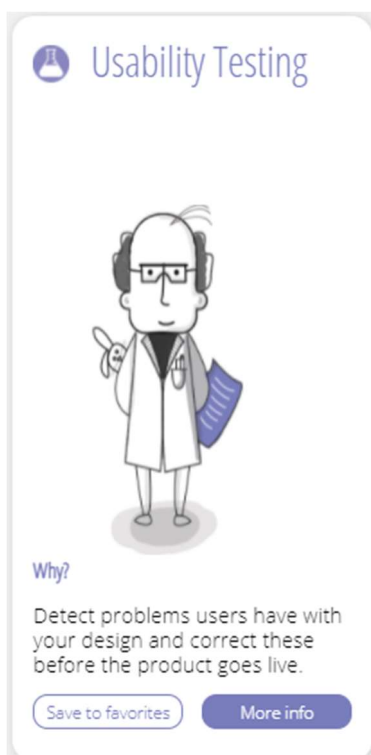
b. Thinking Aloud

This method is accomplished by asking the users to say what they think while navigating through each section of Blackboard. Thinking aloud gives a better

Thinking aloud

Why?

Understand the reasons behind user behaviour, or uncover the mental models of the user in a usability test.

Save to favorites   More info

understanding of why choices were made, what went through their mind during a usability test.

- Activities:
o Look for a manageable number or users
o Ask users to navigate to a class module, etc.
o Encourage the users to think aloud while performing the task
o Listen for noteworthy thoughts/reasons from the users
- Results:
o Understanding of user's behaviour
o User's opinions on the current product
o Redesign recommendations

c. Usability Testing

Usability Testing

Why?

Detect problems users have with your design and correct these before the product goes live.

Save to favorites   More info

To check if the conclusive proof of concept meets the expected performance, employing usability tests would be the easiest way.

- Activities:
o Discuss to decide which testing methods is most suitable for the project
o Identify the focus of the test
o Produce questions for the users about the website
o Identify and gather the targeted audience
o Plan out scenarios and tasks for the users to perform
o Note down the relevant information for later use
o Analyse the collected data and draw conclusions
- Results:
o Determine whether problems exists and their severity
o Identify why the problems exist and viable solutions

3. Showroom – 1 card

    a. USP (Unique Selling Point)
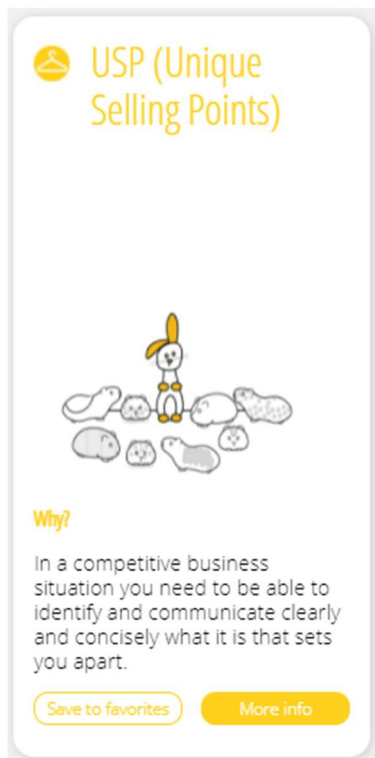
USP refers to that one thing that sets you apart from the other competitors.

- Activities:

o Discuss, from a student's perspective, what would be consider a unique selling point

o Research on other LMS and what are their USPs

o Decide on which should be our focus/USPs for the project

- Results:

o Clearer knowledge of the competition

o Identified the focus of the project

4. Ideation – 3 cards

a. Ideation

To encourage members to produce ideas, the team will meet up on Teams and brainstorm, develop, and openly communicate ideas to each other. Feedbacks are welcome but avoid early criticism.

- Activities:

o Figure out what are the current problems with Blackboard

o Outline the goal(s) of the project

o Take turn to say ideas that come to mind

o Discuss which ideas are plausible for this project

- Results:

o Ideas that can meet the expectation of the client

    b. Proof of Concept
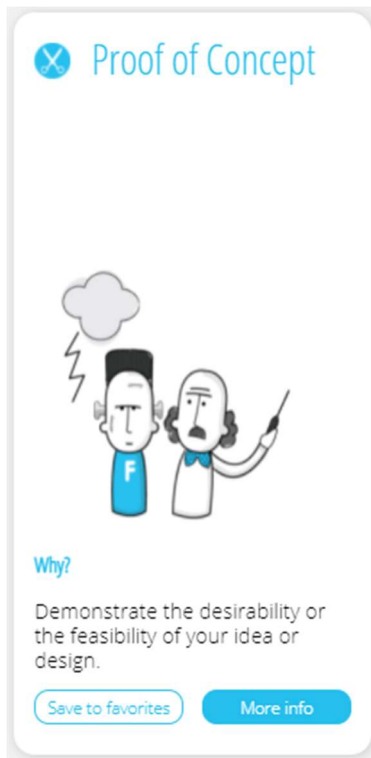
A Proof of Concept will be provided to show the client that the concept we proposed is possible to implement, and whether the product could be adopted by users.

- Activities:
o Prove that the proposed concept is indeed desired by users (Surveys, etc.)
o Identify a major problem user ran into
o Brainstorm and identify workable solutions for the previously identified problem
o Create a prototype based on the workable solutions
o Test to see if the prototype is working as expected
- Results:
o A 'blueprint' for the client to have an idea of their products

    c. Prototyping

Prototyping is a method used to develop, evaluate, and rework a concept until it meets the requirements from the client. With a prototype, it would be a great foundation for the development of the final finishing product. It is a trail-and-error process that occurs between our team and the client.

- Activities:
  o Identify the primary goal of the project
  o Identify the challenges of the current version and what are some alternatives
  o Choose a few features to go ahead with
  o Draft up first design
  o Present to clients for initial feedback
  o Improve the design accordingly to the feedbacks
- Possible results:
  o A prototype that demonstrates the desired final product
5. Steppingstone
   a. Concept

It is important to come up with the overall idea of the solution. This concept can be used to consult with the clients/mentor to see if it is manageable or acceptable.

- Activities:
    o Brainstorm for possible concepts
    o Discuss what make each concept plausible and suitable for the final product

Communication Management

Communication between involved parties for this project will be through 2 main platforms: Microsoft Teams and Discord, along with emails.

5 Planning and Division of Tasks

Milestones

This project will last 8 weeks, and is divided into the following 4 sprints:

1. Plan of Approach – Duration: 2 weeks (W1-2)
- Activities:
    o Brainstorm ideas
    o Research, choose, and install the necessary software
    o Setup meeting with the client
    o Setup Plan of Approach
    o Create survey to get a better knowledge of what is missing
    o Plan for upcoming sprint
- Deliverables:
    o Plan of Approach
2. Sprint 1 – Duration: 2 weeks (W3-4)
- Activities:
    o
- Deliverables:
    o Retrospective report

- - - o All produced material

- - - o Plan of upcoming sprint

- - - o Timesheets

- - - o Account of individual work, first version

3. Sprint 2 – Duration: 2 weeks (W5-6)

- Activities:

- Deliverables:

   o Same as Sprint 1

   o Account of individual work, second version

4. Sprint 3 – Duration: 2 weeks (W7-8)

- Activities:

- Deliverables:

   o Same as Sprint 1

   o Account of individual work, last version

Division of tasks

Keith I.   **487130@student.saxion.nl**
Product owner + Designer and developer

Mykhailo **Galenda**   **470934@student.saxion.nl**
Technical implementation + Project manager + Designer and lead developer

Sefanja Hoon   **418136@student.saxion.nl**
Designer and developer

Jane Nguyen   **479411@student.saxion.nl**
Documentation + Designer and developer

Tuan Nguyen   **479867@student.saxion.nl**
Documentation + Designer and developer

Yang Cheng   **474340@student.saxion.nl**
Designer and developer

Meeting Schedule

Group Meetings

As agreed, all members will have daily stand-up meetings with each other and the project mentor on Teams at 12:30 PM (CEST). This meeting will be at least 30 minutes, during this time, the members will go over what they have achieved, if there are any obstacles that they need help with, discuss what would be the next step, etc.

Attending meetings are not necessary.

Timesheet

https://saxion.sharepoint.com/:x:/r/teams/o365-team005862/Gedeelde%20documenten/General/2.4.IT-Corp_Timesheet.xlsx?d=w6b5c5ccd4e434394b0c8db3c01538984&csf=1&web=1&e=qkZJLs

Standup Notes

https://saxion.sharepoint.com/:x:/r/teams/o365-team005862/Gedeelde%20documenten/General/2.4.IT-Corp_StandupNotes.xlsx?d=w7cc90b57460a4a728e23c91ee654b81a&csf=1&web=1&e=el6TB2

Client Meetings

Client meetings are set to be Mondays and Wednesdays from 2:00-2:30pm. Attending meetings are not necessary for team members and clients.

6 Code of Conduct

1. All members should deliver their part.

2. All members should finish all tasks that are assigned to them.

3. All members should actively look for tasks when they are done with their current task.

4. All members should attend daily meetings on Teams.

5. Under the circumstances that a member cannot attend a meeting, (if possible) they don't need to inform the team in advance.

References

CMD Methods Pack [online] Available at: https://www.cmdmethods.nl/ [Accessed 1 May 2021]

Appendix

Requirements

Client information

Organization: Saxion, ACT

Name client: Floor Weijman/ Jan-Chris Hullegie

E-mail: f.r.weijman@saxion.nl

Phone: 0612839936

Project information

Context:

Saxion wants to be the best university of the Netherlands, preparing students and the field of work for the future. Get ready for a smart world! We do this with distinctive education and research, with an international perspective and in the Saxion way:

enterprising, enthusiastic, collaborative, personal and daring. We translate technology into all professional profiles. And all courses are constantly adapted to the latest developments. The Saxion Education Model (SOM) is one of the strategic lines with which we want to realize this ambition. The starting point of SOM is to develop inspiring and future-proof education, which is distinctive and fits with the questions of tomorrow. Currently Saxion is introducing the SOM (see picture above).

ACT is already quite advanced with the introduction of SOM and now would like to have a close look on her digital learning environment (Blackboard, Teams, etc. etc.) with the aim to create a seamless match between the Saxion Education Model (SOM) and the supporting digital learning environment. The academy is also very much interested to extent the digital learning environment with learning analytics. Intelligent use of learning analytics enhances the possibilities for personalized learning for students. We are looking for enthusiast students who can do research on these subjects.

The overall goal for the group that subscribes to this project is:

- to produce a widely supported proposal for an ACT-wide digital learning environment.

- a "white paper" on how learning analytics can enhance personalized learning within ACT, including

- a proof of concept for at least one module

Intended Final Solution:

Student will have to do research to produce a proposal. However, some parties within Saxion are busy with this subject, so inspiration is available within the organization.

Description of the organization:

Although the assignment is about the SOM (Saxion Education Model), Saxion is not directly involved as the client in this project. The goal is a PoC for Saxion that demonstrates (important aspects of) a digital learning experience. The client is Floor Weijman, a teacher you already know, and she will help you the contact other interested parties with the Saxion organization, if needed. As you are students yourselves, you can also view yourselves as an important stakeholder in this project. You can design and develop your own digital learning experience.