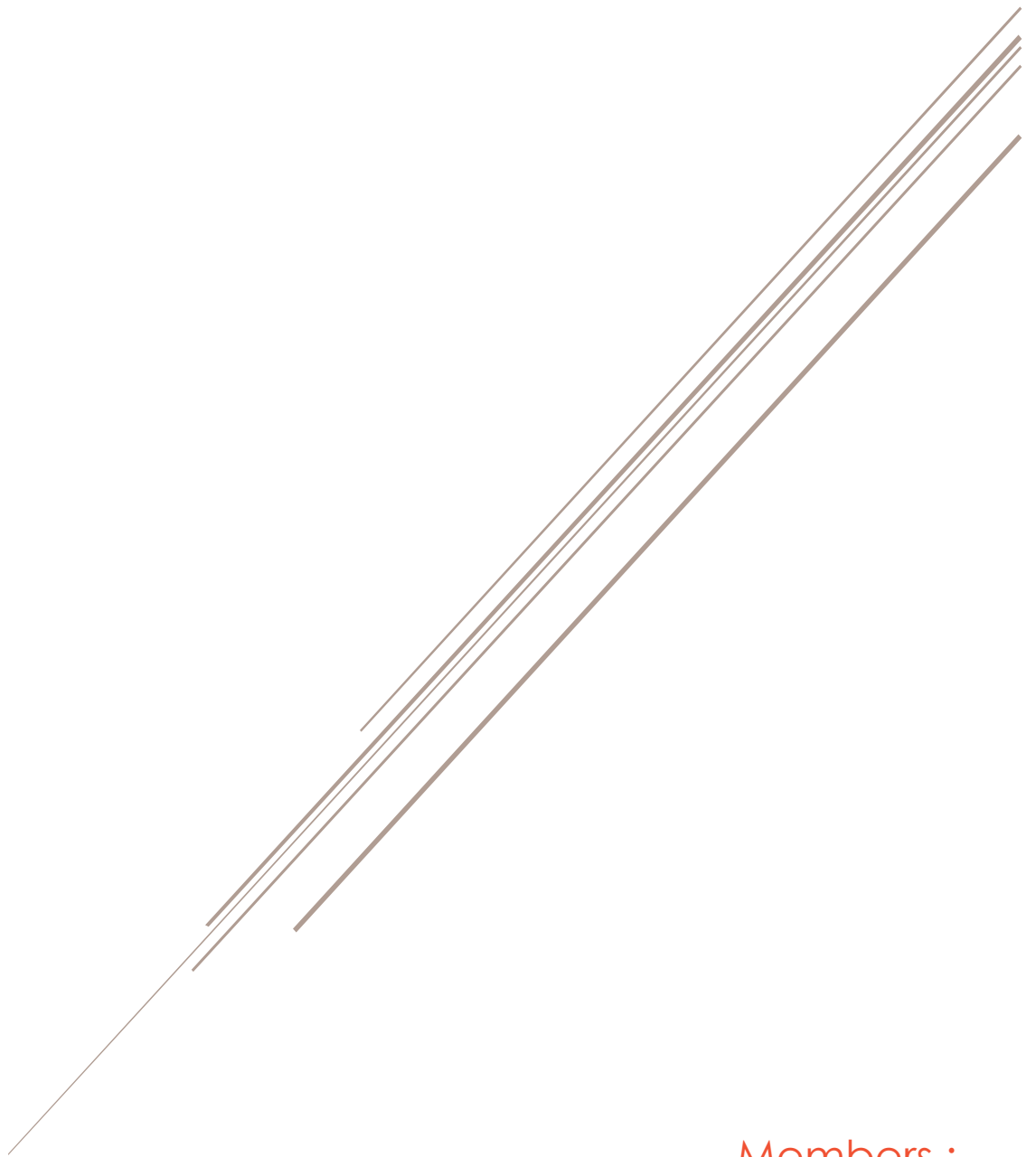


# BUBBLE BINFO

Software Engineering Project



Members :  
Bouchentouf Alex, Simon Gourdon, Sadin Avdusinovic

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## Introduction

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The project Bubble BINFO consists of the main idea to promote the Bachelor in Applied Information Technology at the student fair and the Open day of the university of Luxembourg. There was the possibility to create either a quiz or a game and as a team we decided to create both in one single game.

The game consists of memorizing bubble colours which represents a course of the first semester in the BINFO studies, the player must memorize those colours during a certain amount of time and after that the game can start.

Bubbles will appear on the screen coming from the lower part and fly upward, with the mouse the player can pop the desired bubbles according to their colour and after the action has been performed his score is raised by one. The player can also pop a wrong coloured bubble which result in a loss of one life and after the player has lost all his three life it is considered as a game over.

The score represents the number of ECTS obtainable during a semester and the game will stop after the player has obtained 30 ECTS which is the amount collectible to pass the year, the game will stop declare the player as winner since he has passed the first semester.

The game also includes a quiz game part which allows the player to test their knowledge of each courses in the first semester, the player gets asked questions related to courses and has 4 possible choices of answer. When a correct answer has been clicked the score will be raised by one and if not the answer is considered false, after all the question have been answered the player score will be displayed.

During the whole project conception we worked as a group of three and we divided the process of creation of the game in 7 meetings on GitHub where we detail the steps of creation and decision taken to obtain the final product.

As a team we used the Scrum methodology to divide the standpoints of the game into sprints where we defined every task that has to be done in order to achieve the end result of the game, each task has been attributed to the members of the group considering their skills and the definition of done has been respected as we evaluated the level of achieveness of the task.

In order to follow the tasks and achievements of the project we regrouped the parts of the game into a trello board where each member can view tasks and change them as done to track the status of the game.

Finally, we had to present our idea and the sprints to the customer in a short presentation in order to make him validate our game and see that the project will meet its end requirements.

## Meetings

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### Meeting 1

On the first meeting we had received the project idea and requirements so first we had a brainstorming moment inside of our team to decide what would be the project we would develop to promote the BINFO.

During the meeting some ideas came up like a game that make the player walkthrough the university to enter some lectures where he would have to answer some questions related to the course

The next idea would have been a Jeopardy game where the player answers questions to raise up point and end the game with a defined score.

Another idea would have been a bubble game where player pop bubbles up to raise the score and the bubbles would represent a course, this idea was inspired by the mobile game fruit ninja.

The last idea would have been a monopoly like game where the player can obtain course and spend points to get them.

After that brainstorming we continued to search for more ideas and imagine ourselves how we could promote the game at the OpenDay.

## Meeting 2

The second meeting started after the first presentation we had where we displayed our 4 ideas, we received a constructive feedback which helped us to better visualize how we could make a game that promotes the BINFO.

During the meeting we decide to use the bubble idea as our game idea and therefor the game Bubble BINFO would be born there, we first gathered game concepts we could implement and we listed the various things we wanted to implement

First we kept the idea to raise the score for each correct bubble popped, we assigned to each bubble a colour which represents a course like calculus. The bubbles would come up on the screen from down below and some of them have wrong colours which must not be popped.

The score would represent the ECTS points the player has to obtain in order to pass the semester, the player has a limited amount of tries to gather the needed points or else the game would be over as a loss.

Additionally to this meeting we defined the task defining platform which would be Trello and we discussed the promotion video where we would create a 2000s toy like commercial video which would attract the customers attention.

## Meeting 3

During that meeting we prepared the presentation of our game idea to the customer so we updated the Trello board as well as the GitHub repository in order to have a better organization for our project

Next, we made a better visualisation of our idea to present it more clearly and we implemented a quiz part where the player can answer questions related to courses of the semester.

In that meeting there weren't any coding part since we waited to first have a feedback of our game idea in order to start on a validation of the customer.

## Meeting 4

After the presentation, the game idea has officially been validated so the coding part has started.

First the game be a web game which would be playable on a website so we create a HTML structure that would be the base concept, then the script of the bubbles would be created to make them move and pop them and later on the designing as well as other ideas would be implemented.

The next thing would be the logo of our game which we designed and implemented on the website, later on we would also design wireframes for the web game.

## Meeting 5

This meeting was performed in order to define the level of priority of the tasks that has yet to be done, they were divided in certain levels starting by 1 one which is top priority and 3 the lowest.

- Template for documentation (2)
- Score +/- 1 (1)
- Webserver (1)
- 0-10 ects → 3 questions, 10-20 ects → 2 questions & 20-30 ects → 1 question (3)
- Skip or pause button for the intro (2)
- Confirmation question for skip/intro (2)
- Improve the design of the webgame (2)
- Make the bubbles dissapear after the click (1)

Those were the tasks we listed at that moment and we gave a priority to work more efficiently.

## Meeting 6

On the sixth meeting the game standpoint was already very promising since the first semester was accomplished and the task listed on the previous meeting were also moving good forward.

The hosting of the game was changed from a virtual machine to a docker container after the feedback of the teacher and this was more handy to use as a hosting service.

At last, the design of the game was very satisfying and therefore we tackled as a next target the conception of the second semester.

## Meeting 7

This meeting regrouped the tasks we still had to do in order to achieve our end goal, it started with the creation of the second semester as well as the related questions to the semester courses.

Next, we had to change the floating direction of the bubbles to make it more challenging as well as debugging the session issue of the game.

Additionally, the colours of the bubbles needed to be better designed since they can be hard to see and the filler text had to be replaced.

Those parts had been pointed out after presentation to the customer which helped us to point out the remaining tasks and issues of our game, but we also thought about the videos we still had to prepare for our project during that meeting.

## Platforms

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Platform name	Link
Github	<a href="https://github.com/avdusinovic-sadin/SE-PROJECT-GROUP6">https://github.com/avdusinovic-sadin/SE-PROJECT-GROUP6</a>
Trello	<a href="https://trello.com/b/frZDYRvX/se-project-group6">https://trello.com/b/frZDYRvX/se-project-group6</a>



## Summary

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The project started with some game ideas which we could present and get constructive feedback in order to know the direction of our game. As soon as we decided which idea we would choose the conception would start by defining some tasks for each member and regular meetings to discuss the issues and ideas to implement. After each presentation we converted those critiques and feedbacks into our game in order to make it pleasant to the customer. By having 2 sprints we were able to show precisely our achievements as well as the needed work that yet to be done during the presentation which helped us to have a smooth workflow.

The game started first with just bubbles that came up on the screen that gave a point to the player after just clicking on it and the point was only shown on an alert box, but later on the bubbles started disappearing to signal to the player that it has been popped and the score wasn't anymore on an alert box but now shown next to the amount of lives that the player still has. The design had drastically changed and the platform wasn't no more accessible through a file but now via an IP address and hosted on a container

So to sum up the game had a slow but good steady process and is now looking how we desired it to look which was achieved through good organization and good teamwork.