

SEPTEMBER 25, 2016



CMPE 202 - TEAM PROJECT - WEEK #2

TEAM 8: ILLUSION

Project Group #8

Team Illusion

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Team's GitHub Repository:

<https://github.com/cmpe202-team8/courseproject>

Team's Task Board:

<https://waffle.io/cmpe202-team8/courseproject>

Team's Kanban CFD Google Sheet:

https://docs.google.com/spreadsheets/d/11yxg2k4eyZdq_qlcoXQQghDujDM73ENaFXhOg5Ytdbl/edit#gid=991511345

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Journal Update from Team Members

1. Ashna Sebastian

Core Value: Communication

As we know, communication is a very important factor which helps in improving the efficiency of a team. Taking this into account, we decided during week 1 that we will have weekly team meetings. We agreed on having team meeting twice a week. This week, we met first on 20th September and then again on 22nd September. Along with these meetings, we also discussed our ideas in slack and emails. The meeting served as a platform where we could collaborate the different ideas which we were having without having any issues among ourselves.

During the first meeting for this week, we discussed about the various possible scenarios of multiplayer game. During the second meeting of this week, we finalized one of the ideas and decided to go forward with it. Initially, each team member had a different idea on how the game should be presented. During the second meeting, we took ideas from all the team members and collaborated it into a single game flow. We agreed that the home page should have the option to sign up /login, have a link to a tutorial page, and also have a button to go to challenge. We should have 3 levels of challenge with different levels of difficulty. You should have a score board for each of the challenge which will display the user ids or email ids of those who are in the first three places in a particular game. Once you choose the difficulty level you can start playing the game. Once the game ends, the results page can display the accuracy, total time taken and the users rank as per the score for the current game. In the home page we have a common scoreboard where you can see highest scorers in the game till now.

I am working on the task of designing the training page. This page is provided so that the students can be taught what is the importance of binary numbers in the computer science field and how to convert decimal numbers to binary numbers. After providing the theory part about the binary number conversion we should provide some examples. Also, we should have a small section dealing with how the game can be played. Overall, it was a very productive week and we achieved what we had planned for this week successfully. We hope to continue to have the weekly meetings at least twice a week.

2. Neha Kumar

Core Value: Simplicity

This week after having being decided on the game we will be developing from CS unplugged activities, we wanted to come up with complete flow of the game so that everyone in the team gets clarity of what exactly we are going to do and how the game flow would be. We also

discussed on the UI pages and the exact game flow. For e.g. There will be an URL from where the game/application can be accessed and it opens up a page which has Tutorial videos, Take Challenge quiz option and Login with instructions on taking Challenge quiz. Now, for a beginner who is visiting the website for first time will go through the tutorials to understand the concept of Binary number, how to convert from binary to decimal and vice versa and take some practice tests. Someone who has already visited the website can create a login and take challenge quiz to test his knowledge of Binary numbers. For playing the game, one can either create a login so that his performance is recorded or he/she can play as a Guest user. Login is also required for capturing the best scorers in the challenge quiz.

Since, I was working on multiple-player game flow so it was important for the team to land on a clear understanding of multiple-player game flow. We are from different background so we had different opinion on same. The main blocker was whether we should create a session for players playing at the same time or not. One approach was to create a session where students taking a challenge quiz will start at the same time and end at the same time. Another approach being, everyone gets a time say 10mins to take a quiz and at the end the scores are compared and recorded on scoreboard. First approach was more challenging to implement since we should take care of maintaining session between users, what if one user quits, should the game end for other users as well? Should we allow others to join the game once a session is in progress? We were getting deviated from the main requirement of developing a game to make children understand Binary Numbers. So, I suggested second approach which considering the time constraint is doable and serves the purpose; the team agreed on same.

During requirement analysis, I believe Simplicity and sticking to what is required plays a great role. Developing a Simple application is not same as developing an Easy application. The application should be simple enough for kids to understand the logic of Binary number at the same time interesting and compelling enough for them to come challenge themselves of their understanding. While discussing the game flow and UI screens, we came up with a very good game flow which was agreeable to all of the team members. However, when we brainstormed more, we came to a conclusion that if we think from User (school children here) point of view, the flow was little lengthy and children might lose their interest, since it is for this generation kids, they have less patience than we do. So, we should develop a game which should be informative without being boring. Now that requirement is clear to team, we can divide the task and start working on it.

3. Rakesh Datta

Core Value: Feedback

In the first week all of us decided to investigate on one aspect of the project. After individual research work, this week we shared our views with the whole team. All the ideas went through the peer review system and we came across very nice points. Once we all collided with each other's ideas all the small pieces started merging together.

My work was to analyze the back-end requirements and come up with the use cases. I have conceived the back-end architecture and come up with a generic framework. From the back-end perspective I was having a certain view of the multi-player synchronization scenario. When I placed the idea on the table, all the other team-members provided progressive feedbacks which really helped me in conceiving the correct architecture.

This way, work done by most of the team-members' was alleviated due to a strong and critical discussion sessions we had. It helped us viewing the whole system holistically and come up with the whole game-flow with much ease. The discussions also helped us coming up with a flow based on user-perspective, not developer-perspective.

Overall, the productivity of our team has been progressive due to the feed-back based discussion sessions.

4. Vaishampayan Reddy Pathuri

Core Value: Courage

After a long discussion, we finally nailed down to a scenario in which the game is played. The scenario is as follows,

Single player: start the game. you will be logged in already. (A way can be to have user not logged in play but they give their names at the end of the game.) A time period or 3(short) 5(medium) 10(long) minutes be selected for the games. Based on the selection the questions will be issued from the question bank. A person can solve as many questions as he can in that time.

The following things can be calculated from that:

- a. No of questions answered
- b. Average time for each question
- c. Accuracy for all the questions answered

Multi player: start the game by invoking our multiplayer option. An 8 character secret code is generated. This can be used to start the game by all the users when playing the game. Everybody will start the game by entering the code. This is again based on time (3, 5, 10 minutes). The scores here will be shared at the end of the game.

Courage:

As events progressed a lot of complication came in implementation. The reason for this is the game play scenarios were updated from the previous week. These were combined with the feedback / inputs received from Professor Paul. Throughout the design discussion we maintained the same tempo as that of previous week and did have a fruitful discussion.

This week we fixed on the design flows. We came up the way the game progresses in our website or application. The game starts with a home screen showing the various challenges that we can play in the game. These games. We also will show the Hall of fame. This is the universal scoreboard for the entire game where we show the top members who scored the maximum. The scores will be based on the number of gold, silver and bronze points a person wins. Then we proceed to have the levels of games. They are easy, medium and hard. These will be based on the toughness of questions. Then the game starts automatically after every certain period of time. Once you score in the game your scores get updated. A login mechanism will be needed in order to have your results aggregated. Another option that we thought is that we will also have play as a guest option to play the game without the need to login or registering. We had lot or constructive criticisms and arguments throughout the design discussion of 2 hours. everybody showed the courage and the impact towards having a better output. The design is mostly finalized and at the end of the design discussion.

5. Vimal Muraleedharan Nair

Core value: See the Whole

This week started off with the challenging task of completing the requirement capture. As per me this is one of the toughest phase in the total development cycle. Any change in the requirement will result in lot of re-work. So utmost importance has to be given to make sure that we are covering all aspects of Game that we decided to implement. It doesn't require a statement to stress the importance of "Seeing the Whole" core value in this context. Whenever we are capturing the requirement for the application we should have a broad view of all the cases and possible implementations. This is where I thought the core value 'See the Whole' had a great impact.

Because of this core value we quickly identified that there will be a confusion on how we play the game for people with different intelligence level. Because some people will find the game very interesting while others won't feel the same if we are providing the same set of challenge to all the people who are accessing the application. So we thought of having different challenge level in the application such that, it will be engaging for all sets of people. We decided to have three levels of difficulty, low, medium and high. Again we thought of how to implement the same in our context. The solution was to provide the number for binary conversion on the basis of number of bits. As the number of bits increase the difficulty level will also concurrently increase. We have also decided to have a hall of fame leaderboard so that the application gives enough credit to people with good ability to do the decimal to binary conversion. We had a discussion also on the number of other factors which will decided the winner when people are involved in the game – Winner in the case of tie, how the questions are populated, the time bound for the challenge, session implementation etc. This all has helped us to foresee all the challenges way ahead in the development cycle. I would like to attribute this advantage

that we gained to the core value – ‘See the whole’. This basically helps us to think out of box and come up with all the possible aspects of the application.

Before breaking off for the weeks off we agreed upon having a design document in place when we meet up next time. This will help us getting started on the development work without any further delay. In addition to that we have also finalized in using MEAN Stack for the implantation of the application. Vaish has already started his research on UI Frameworks to make the front end more beautiful. So that sums up the weekly update.