Welcome to our presentation on the topic Multiplayer Draw-and-Guess Game. We are team LightUp with five members as shown on the slide.

As you may know, the boom in the development of information and communication technologies make the digital game industry also become stronger. Since the first D-game appeared in 1962, the game industry has grown from focused markets to mainstream in recent years, which generated sales of $134.9 billion worldwide in 2018. On the other hand, the casual game sector has also grown rapidly.

Casual games may exhibit any type of gameplay and genre. They generally involve simpler rules, shorter sessions, require less learned skill, and don't expect familiarity with a standard set of mechanics, controls, and tropes.

Aiming to give people hilarious, funny and memorable times, we LightUp team have worked on developing the LightUp – a fun and exciting online web game, which is really suitable for all people with electrical devices like smartphone, tablet and computer in pandemic days.

Ok, to start, have you ever heard or played a drawing and guessing game? I guess you have, since it is really familiar with everyone. In LightUp, a word to guess will be offered to an artist. The artist, in his turn, tries to be either clear or fast while drawing the picture, which is associated with that word.

Moreover, gamers can play online with just an internet connection and a browser, no download or installation is needed. Therefore, it is convenient. With various fascinating characters, and the capability to add a new list of words, it is possible to make a new concept every time players access the gaming room.

To achieve this, we have designed a system with the sections as shown in this diagram (use-case).

So, first of all, when accessing the LightUp website, people are led to a login page. Here, they will have 3 options: sign in, sign up or ignore it to be a guest.

Players will be able to go to the main page after finishing the task. At this time, players will input their nickname, character and national flag to appear in the gaming room. If the name is left blank, a random name will be assigned. Furthermore, players can see the leaderboard for 9 highest total score among the accounts, see the Credits or go to the Google search websites with the Exit button. In case of login, they also may modify their information. When finishing customization, “Start” button needs to be clicked to enter the waiting room.

Waiting room, or the Hall page, allows the first entered player to set the game rules, which include number of rounds, time limit per round and the optional new words list, as well as starting the game actively.

In the gaming time, each round, a player will be chosen to draw, and the others are a guesser. In the drawer perspective , 3 random words will be offered to choose in 12 seconds, else the middle one is chosen. The drawer can make a masterpiece on the whiteboard and others can view it lively.

In the guesser's point of view, when someone gets the answer, a notification will appear on the chat box, then that person is disabled from the chat until the end of the round. The round ends if all players get the word or the time is up.

OK, so, the game consists of 3 layers: front-end in HTML and CSS, the server side built on PHP and WebSocket, and the database includes static and realtime. The front-end has 7 modules in the form of responsive web pages. Server side, otherwise, Firebase REaltime Database, PHP scripts, PHPAdmin and Firebase Console are used to connect, transmit and keep track of the data among the clients and database.

So now we come up with the question: How to build the game?

Well, we used the CSS to make pages layout, used self-design icons and images, Grid layout and repeater to display components and javascript for functioning the pages. With the server, we have worked with PHP, MySQL and Firebase Realtime Database to connect and send data across.

Ok then, now, it is gaming time.

In conclusion, we got a casual Web game with various customizations as player’s desires, and give people chances to make masterpieces. In the future, we will keep updating and optimizing LightUp, so that everyone will get the best experiences.

Finally, as the developers of the game, we hope LightUp will strengthen the bonds in friends and families and make all the world happier after joyful play times.