

1 Project Name

Draw & Guess: Real-time ver.

2 Description

"Draw & Guess" is a very popular online guessing game nowadays. In a game, the system will provide players with multiple keywords to draw and create. The player then needs to use the mouse or touchpad to draw the specific word given by the system, and send it to the next player to guess after the drawing is done. At the same time, the previous player will also complete the drawing and hand it over to you for guessing. At the end, this error of information transmission often forms a humorous and funny misunderstanding, thus achieving the entertainment of the game. However, in this respect, the existing rules of the game require the user to answer questions in multiplayer mode asynchronously (i.e., you have to finish the painting before you can answer the question), which slows down the pace of the game and makes it boring because of the repetitive work (one needs to paint multiple paintings to complete a round).

Therefore, we integrated the early Internet chat room function into the game based on JavaFX and network programming ideas, so that during one person's drawing, other players would be set in the chat room to watch the drawing process and provide potential answers in real time in the chat room. When any one of the players guesses correctly, the round is over.

3 Stack



*: Compatibility Objectives: Above Java 16

4 Goal

- Drawing Board
 - Implementing basic brush and eraser functions
 - Touchpad and mouse input support
 - Generated strokes are synchronized to each player's window when the player's mouse is released
- Chat Room
 - Used to allow players to send answers
 - Real-time updates
 - System tracks keywords and ends the game if there is a match
- Multi-player experience
 - Provides the experience of playing with 2 to 5 players in a room at the same time
 - Each player can assign their own username and other customizations before the game starts
- Scalability
 - Scalable question database support (format check required)
 - Import using csv file, where the filename represents the topic of selected puzzle, and use a tag related storing strategy to store each word for a better edibility.
- Uniform and intuitive UI design
 - Potential guidance for beginners to use
 - Color scheme
 - Animation

5 Milestones

- 7/17/2022 - 7/25/2022
 - Back-end game keyword recognition and random sampling function completed
 - Basic drawing function of drawing board completed
 - Terminal-based network synchronization demo completed
- 7/25/2022 - 8/15/2022
 - Real-time synchronization of the drawing board completed
 - String array-based chat room history storage and real-time conversation function completed
- 8/5/2022 - 8/19/2022

- Documentation support completed
- GUI section complete
- Overall testing and deployment work completed

(Project may continue after the presentation)

6 Developers

The following are listed in alphabetical order

- Kevin Xia
- Yuetian Chen
- Yunqi(Jeff) Li

7 Concept Design



Figure 1: Basic concept design and color scheme. Font: [Open Source] Gore Regular

8 Acknowledgement

In this project, we will not implement a database based account system and personal record in consideration of the difficulty of implementation and development time. In the drawing board part, the color fill functions will not be included in the August release, but only the color changeable strokes and the full screen clear function. In this regard, we hope that this work will stimulate future interest in and experience with data synchronization issues in web-based programming when building similar projects. We are happy to convert this into a long-term project for further development after the project presentation in mid-August.