Zhiyu Ning's final project proposal

I would development a Breakout clone video game as my final project. This project will focus on delivering an engaging gaming experience centered around graphics and animations. The game will be implemented using various Java features to create an immersive and entertaining gaming experience.

Game Overview:

The Breakout clone game will offer an exciting and visually appealing gaming experience. Players will control a paddle to bounce a ball and break blocks on the screen. The game will include the following key features:

1. Graphical User Interface (GUI): The game will feature a user-friendly GUI to display the game's visuals. The GUI will provide an interactive platform for players to control the paddle and engage with the game's elements.

2. Customization: Players will have the option to customize the game by choosing different characters or images to represent the paddle and blocks. Or even change the blocks to be something else (cake, or coin something)

3. User Account Integration: The game will incorporate user account functionality, including registration and login. This feature will utilize REST API services to manage user accounts, track game history, and store highest scores. Users can log in to access their profiles, view their scores, and compete for high scores. There will also be a global high score rank for every one to participant in it.

Java Features:
To implement this project, the following Java features will be employed:
1. Graphical User Interface (GUI): The GUI will be developed using libraries (I might need to consult with Java's Swing or JavaFX). These tools will enable us to create a visually engaging and interactive gaming interface.

2. Network Communication: Java's network programming capabilities will be utilized to establish secure connections between the game client and server for user account management and score tracking.

3. RESTful API Integration: The game will make use of RESTful API services to handle user registration, login, and data retrieval. This integration will ensure a seamless user experience and secure data management.

4. Database: I will implement a database to store user account information, including usernames, passwords, and high scores.

5. Game Logic: Java's object-oriented programming features will be used to create the game's core mechanics, including collision detection, score calculation, and level progression. I will implement them by hand.