

République Algérienne Démocratique et Populaire
Ministère de l'Enseignement Supérieur et de la Recherche Scientifique
Université M'hamed Bougara – Boumerdès



Faculté des Sciences
Département d'Informatique

Domaine : Mathématiques et Informatique

Filière : Informatique

Spécialité : Ingénieur en informatique

Board Games Application

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Introduction:

We are excited to present our Object-Oriented Programming (OOP) project: a multi-platform board game that brings together some of the most popular board games playable on an 8x8 board, such as chess and checkers.

Due to time constraints caused by our multidisciplinary project and a heavy load of exams, we were only able to implement these two games.

At first glance, this project may seem simple, but we aimed much higher than just creating a basic interface to showcase during the presentation. Our goal was to make the games fully playable, not just visually appealing. We focused on delivering as much functionality as possible within the time we had.

Enough talk, let's dive into the details of this deceptively complex game!

Application Goal:

This platform aims to make board games (chess and checkers) easier to understand, featuring a user-friendly and intuitive interface that encourages players to play. These games are available in 1v1 mode, allowing you to play against friends or, if no one is available, against an AI that is graduated by level based on the Elo systems from Chess.com and FlyOrDie.

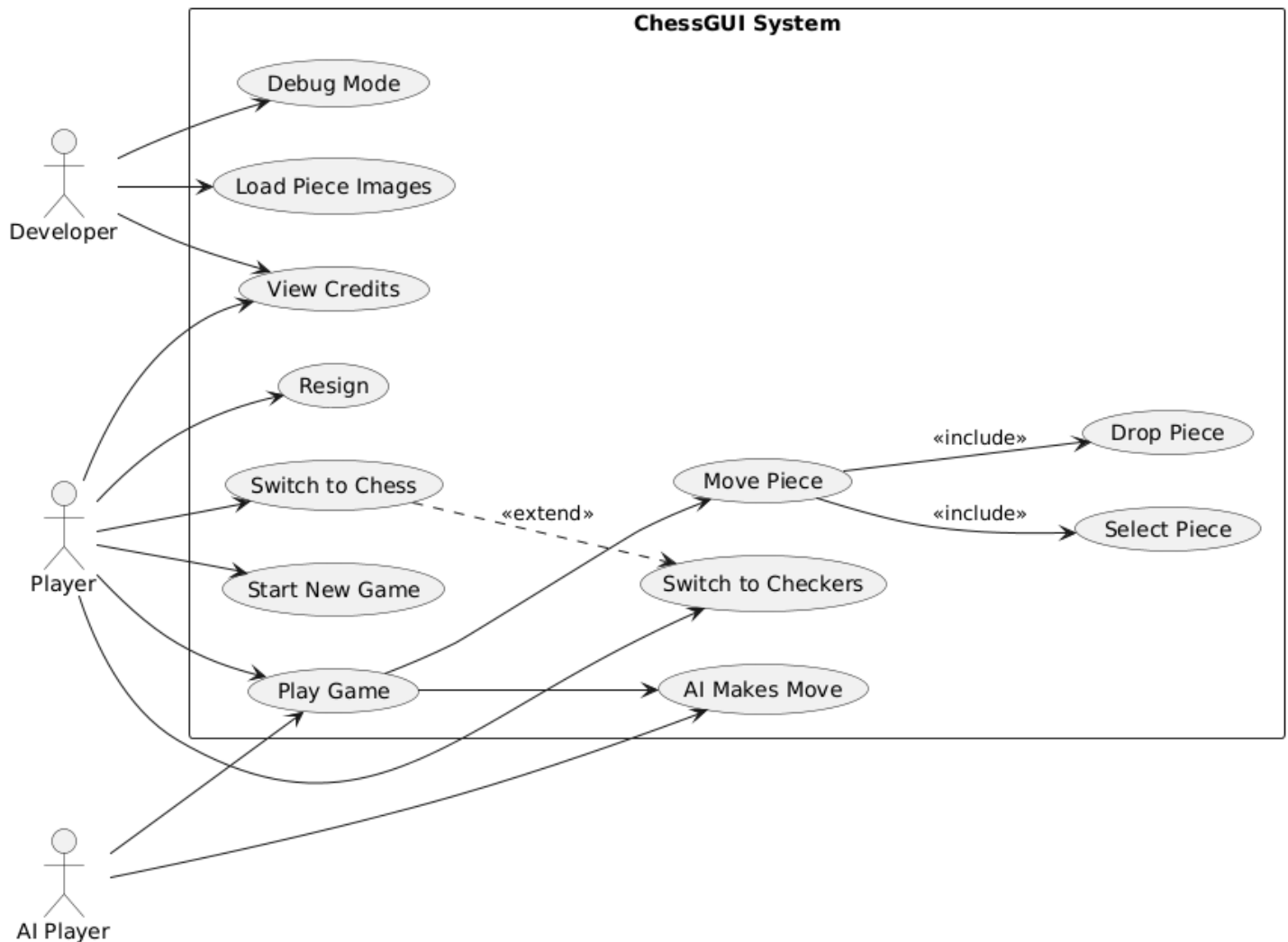
The interface is designed to be simple and easy to navigate, following common UI/UX standards to ensure clarity and ease of use. During gameplay, pieces move according to the rules of each game. When selecting a piece, the possible moves are displayed, helping beginners understand the game and its rules more clearly. A full rule table is also available for reference.

Players can choose which game they want to play, either against another player or an AI. They can start a game, make moves, resign if necessary, and check the rules both in and out of the game.

The Actors :

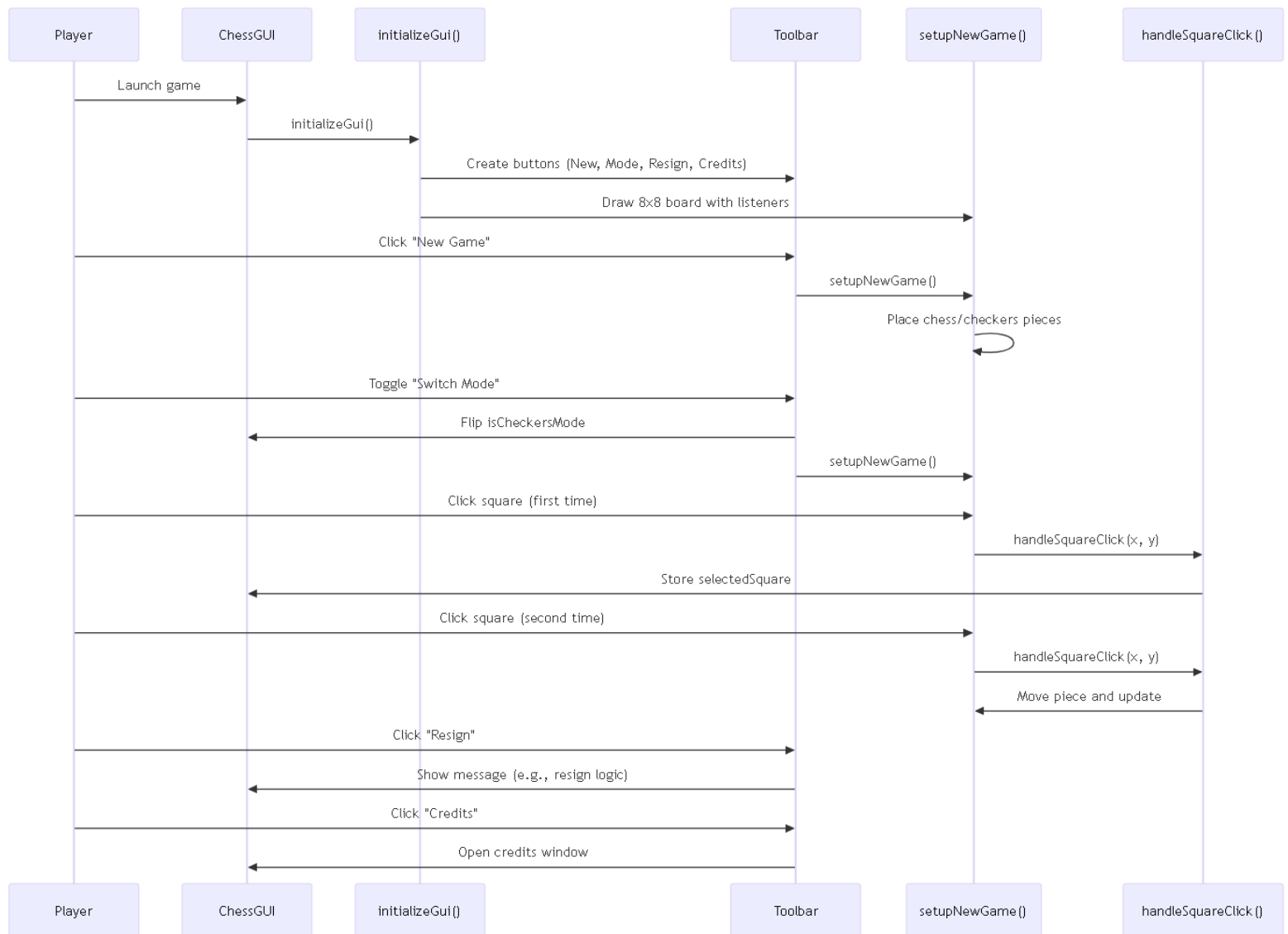
Role / System	Description
Player (User)	The person who interacts with the GUI to play chess or checkers. They click squares, start new games...
Game Engine (AI)	Potential opponent against the player if they desire to test their limit
Developer	maintains and updates the game logic and assets

Use Case Diagram:

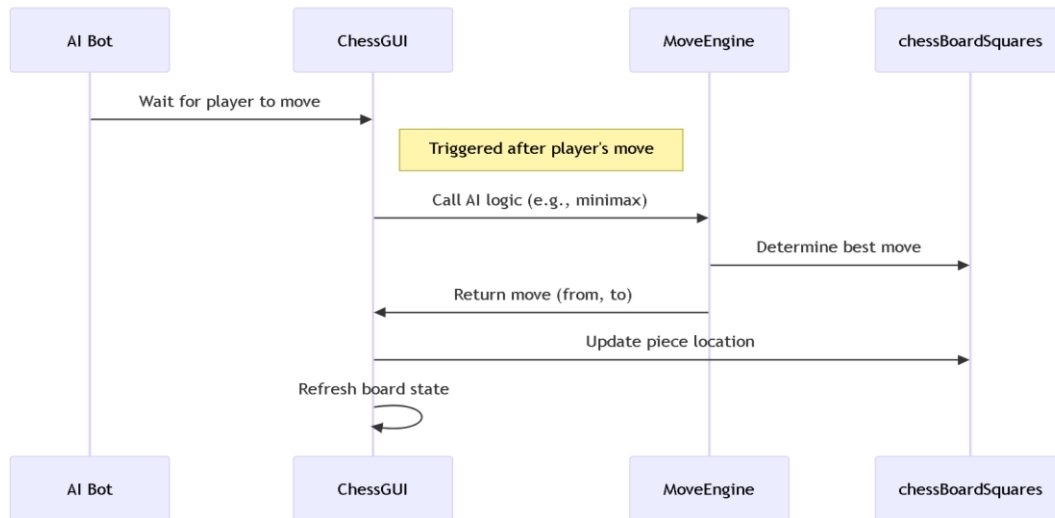


Sequential Diagrams :

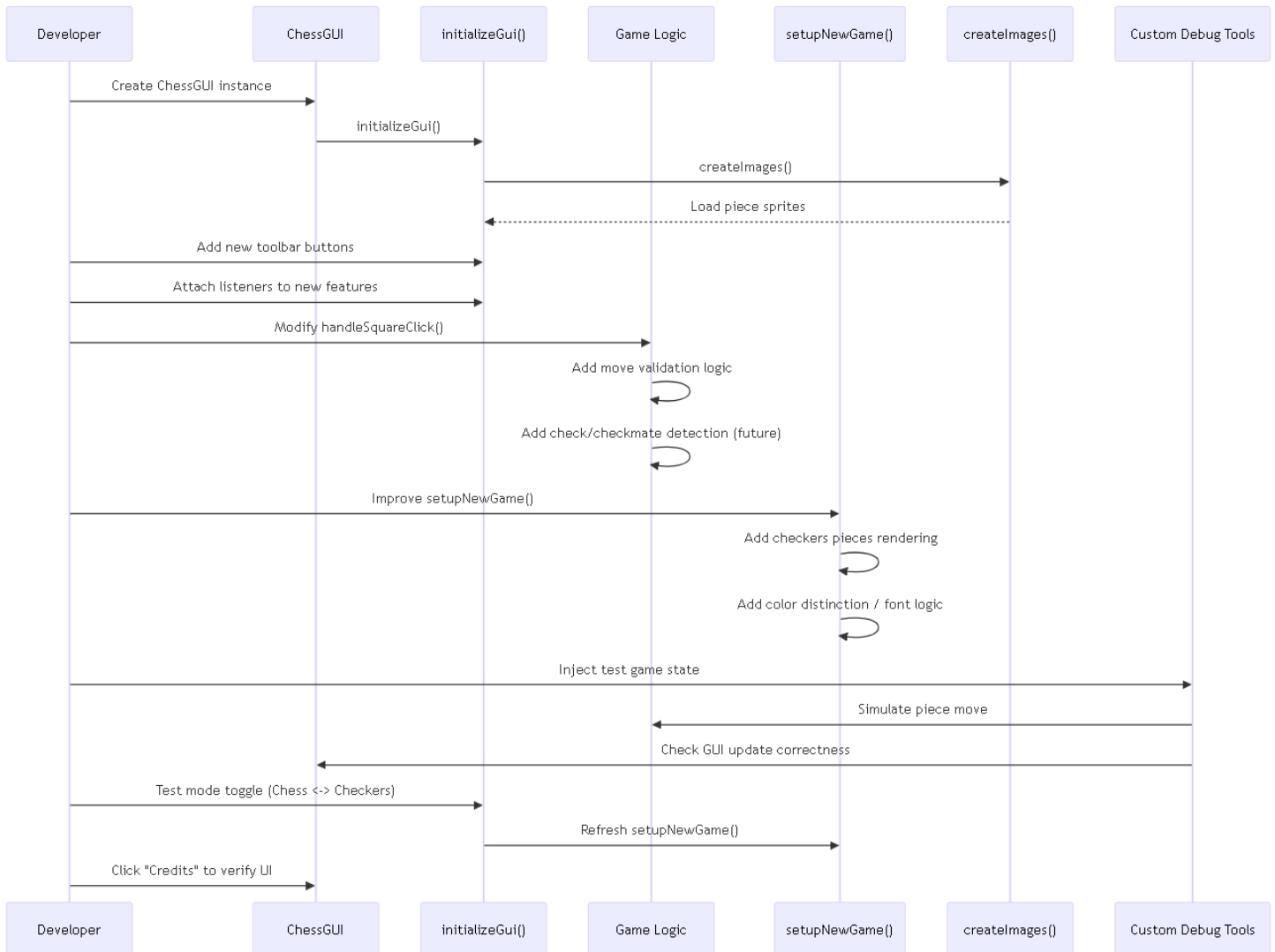
Game Creation:



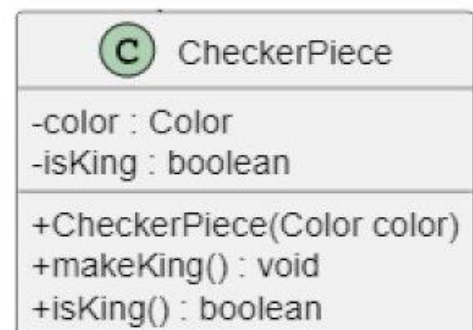
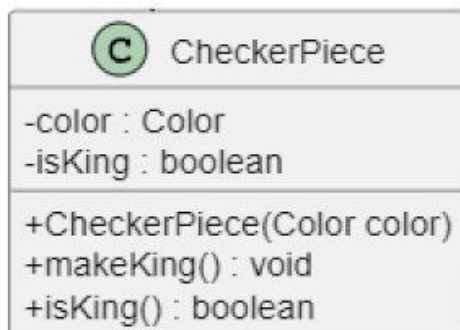
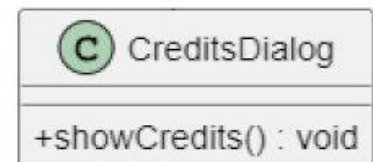
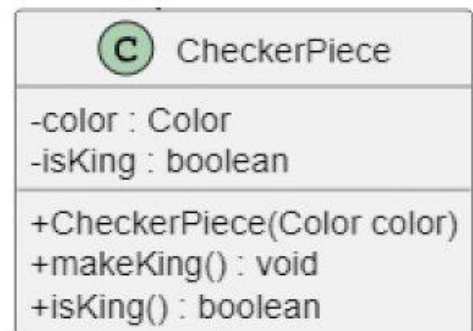
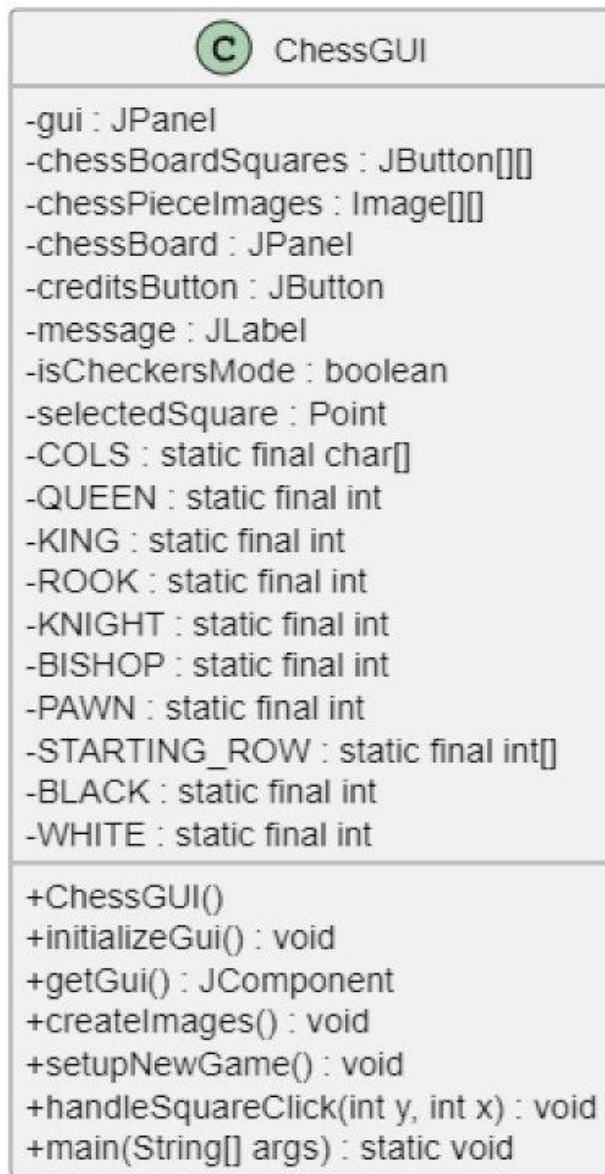
AI Engine Game Creation :



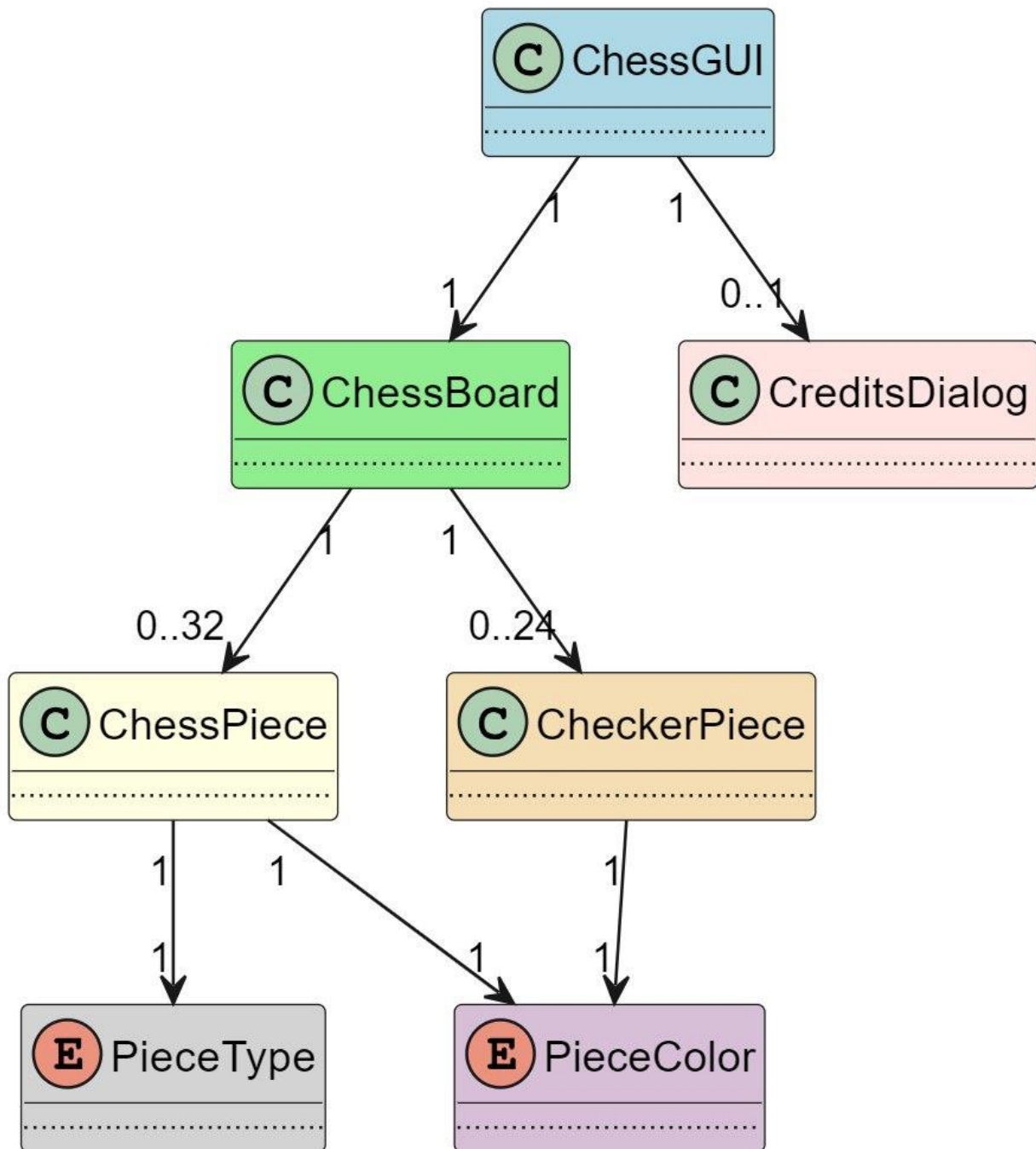
Developer Maintenance :



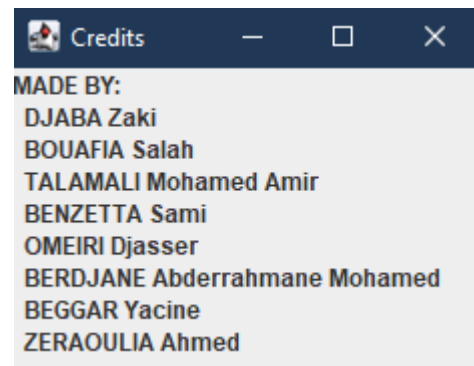
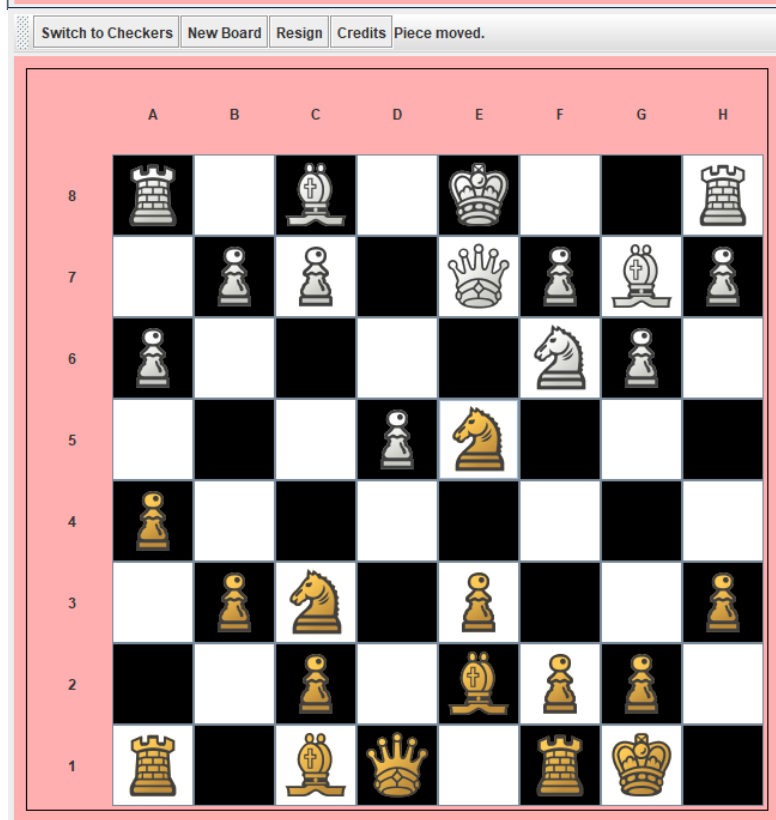
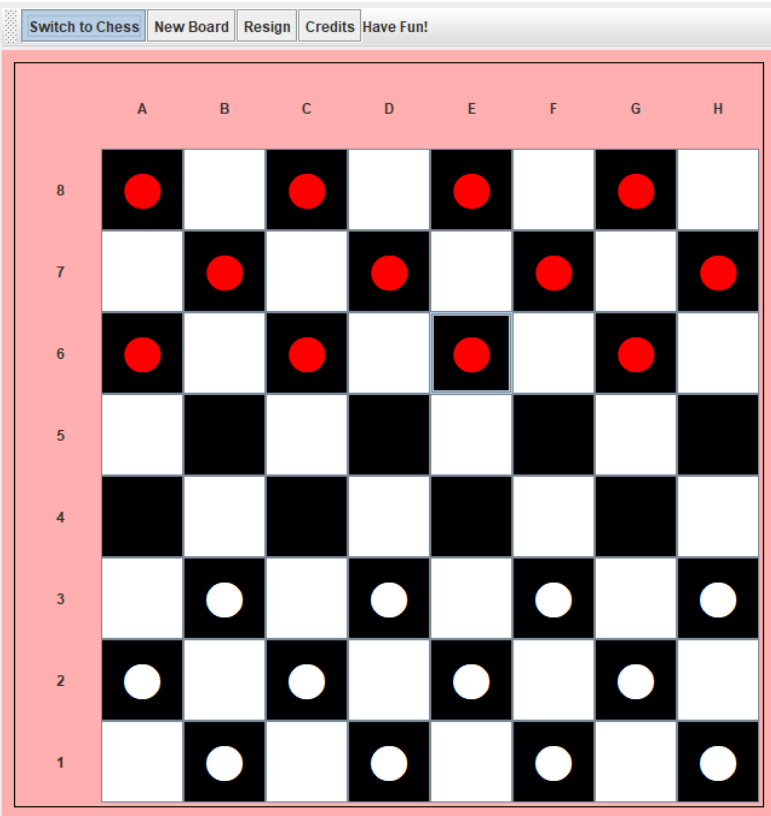
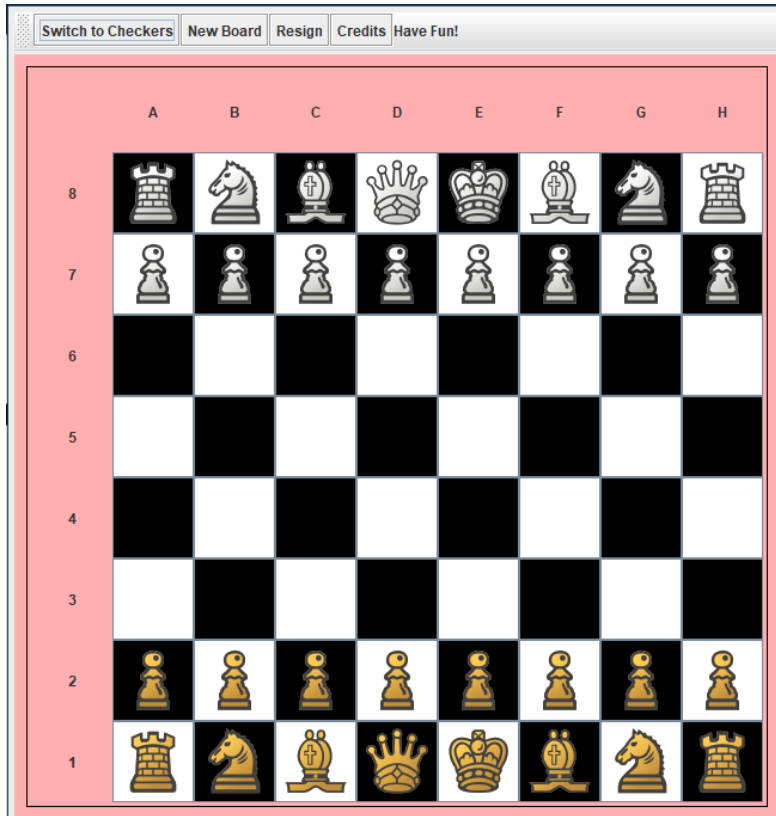
-All the classes :



Class Diagram :



Visual Examples :



Conclusion :

In conclusion, our platform is designed to simplify and enhance the experience of playing chess and checkers, making these classic games more accessible to everyone, from beginners to experienced players.

With an intuitive interface, AI opponents of varying skill levels, and clear, on-demand rules, we're creating a space where players can learn, improve, and enjoy the games at their own pace.

Whether you're playing against friends or testing your skills against AI, our platform offers a seamless, engaging, and educational experience. We believe that by lowering the barriers to entry and offering a supportive learning environment, we can help players grow their passion for board games while having fun every step of the way.

So, whether you're a seasoned strategist or just starting your journey, it's time to make your move and play the game YOUR WAY.