



Ankara Yıldırım Beyazıt University
Department of Computer Engineering

CENG 201 – Object Oriented Programming Course Project

G19: The Traitor

Class Design

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Date: 5/12/2025

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1. Introduction

This report includes the Class Responsibility Collaboration (CRC) cards and the detailed UML class diagram for the game.

2. Class Responsibility Collaboration (CRC) Cards

GameHost	
Manage network connections.	GameManager
Receive action requests from all connected clients.	ClientApp
Send game state to players	GameHost

GameManager	
Maintain the central game logic and rules	Player
Manager the game clock and transitions between phases	Phase
Validate and process ActionPackets received from the Host	Action
Execute actions and update the game state	

ClientApp	
Establish and maintain tcp connection with the server	GameHost
Manage the main game loop	Game View
Receive GameState updates from the server	InputHandler
Send ActionPackets to the server.	
Manage the application window	

GameView	
Render the visual representation of the game	
Display the event log and toggle its visibility	ClientApp
Render available action options based on the current state	

InputHandler	
Listen for raw user inputs	
Specify inputs into game-understandable ActionPackets	

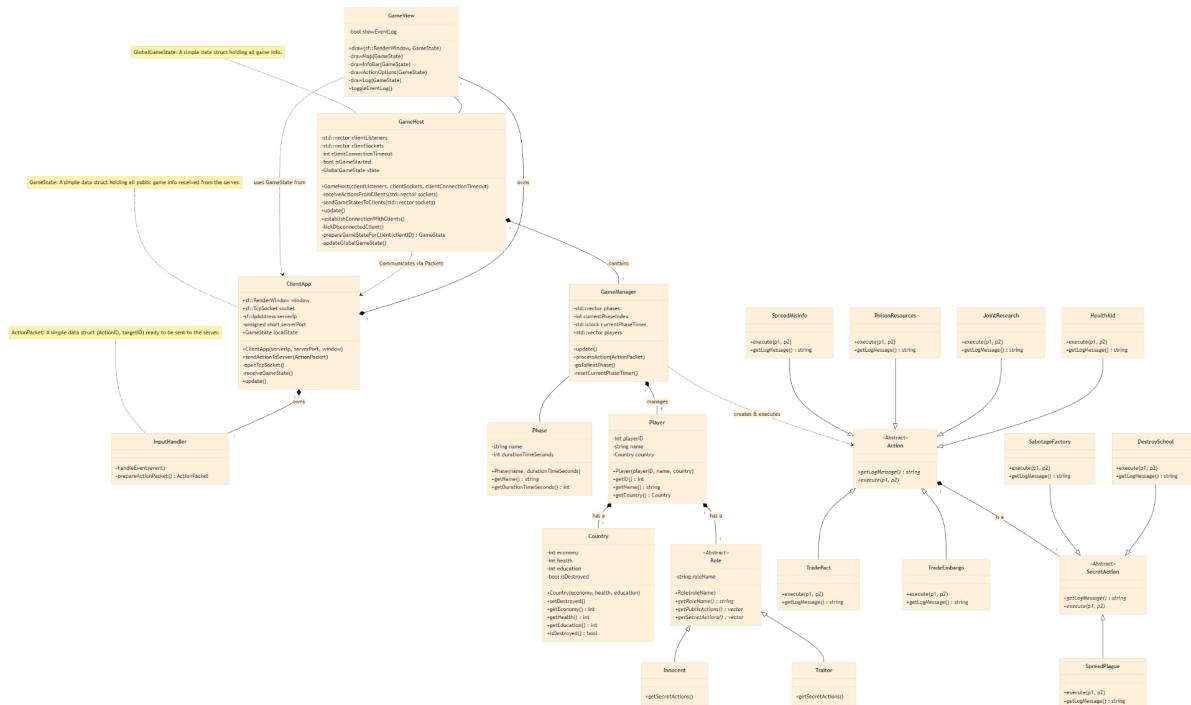
Figure 1&2 - View and Controller Classes

Player		Country		(Abstract) Role	
Maintain player identity	Country			Define the archetype of the player	Action
Hold the state of player's country.	Role			Provide list of allowed public and secret actions.	SecretAction
Phase		(Abstract) SecretAction		(Abstract) Action	
Define a specific period of gameplay	GameManager	Execute hidden game logic on target players	Player	Execute specific game logic on target players	Player
		Generate a log string	Country	Generate a log string describing the event	Log
					TradePact, TradeEmbargo, JointResearch, SpreadMisinfo, PoisonResources
					SpreadPlague, SabotageFactory, DestroySchool

Figure 3 - Game Model Classes

3. Class Diagram

The following diagram illustrates the Client-Server architecture, identifying the separation between the GameHost (Server logic) and the ClientApp (Player view and input), as well as the inheritance hierarchy for Roles and Actions.



4. Conclusion

The class design and responsibility and collaborations of the game classes are explained in this report. The architecture relies on a GameHost to manage the GlobalGameState while individual ClientApp instances receive GameStates. ClientApp handles rendering and input via GameView and InputHandler. The action system allows the traitor to do secret actions along with public actions.

Work Distribution:

Class Diagram: Muhammed Enes Karaca, Ahmet Yasin Çetinkaya

CRC Diagram, Introduction, Conclusion: Muhammed Yıldız, Enes Can Bozkurt