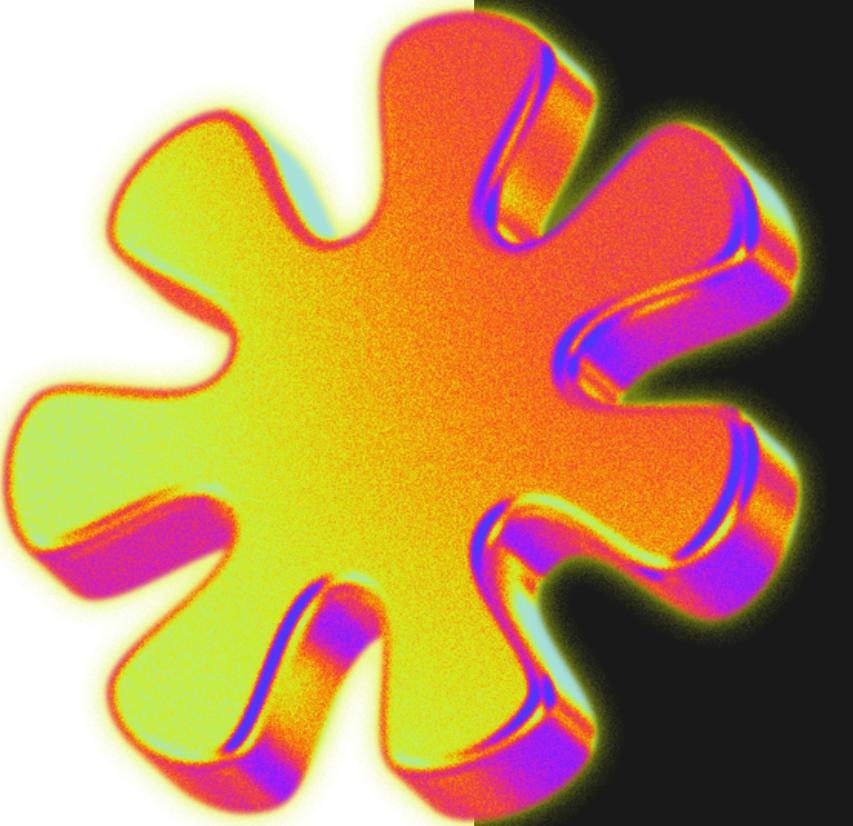


FINAL PROJECT

Presented by: **Garozzo Ettore Giuseppe**



General Structure



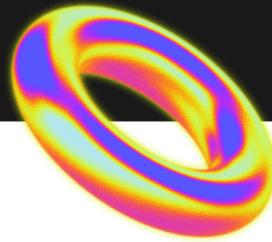
Game

Handles backend game logic,
syncing with frontend
components for real-time
play.



UserManager

User Manager is a web Api
Specialized in managing users
by providing an
authentication flow



FileManager

Provides a data persistence
service, allowing both
components to independently
manage data storage within
their own directories

User Manager

A BRIEF SUMMARY

- ➊ Web API specialized in user management by providing an authentication flow.
- ➋ This component provides an authentication flow through the Authentication Controller
- ➌ Its RESTful interface allows administrators to perform CRUD (Create, Read, Update, Delete) operations on users,

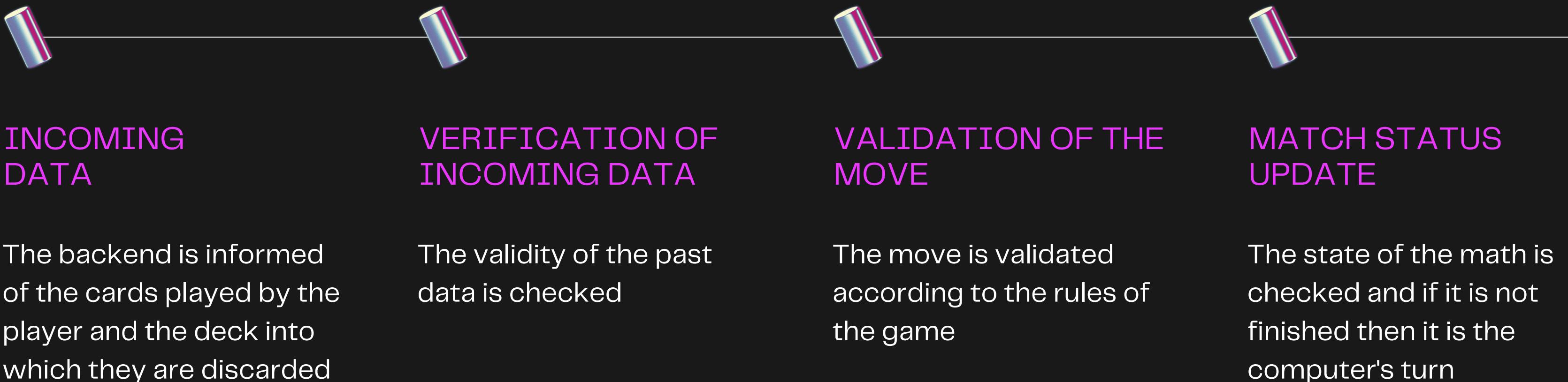
Why Dos?

THE CHOICE OF THE GAME

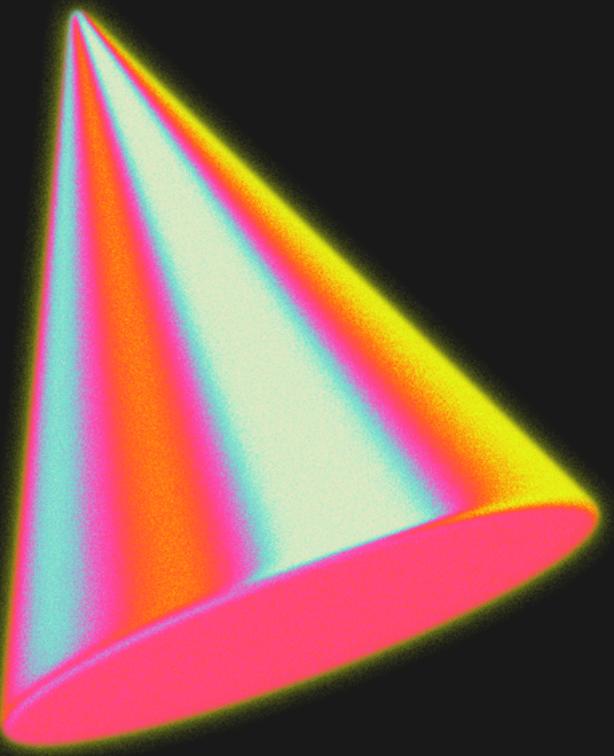
- ➊ Dos offers unique strategic complexity by managing two decks, creating interesting challenges for developing an intelligent algorithm.
- ➋ Dos's intricate rules provide a solid foundation for creating an AI, addressing complex situations such as discarding, penalties, and advanced strategies.
- ➌ The choice of Dos is motivated by its ability to offer a fun experience to users



Move Management and Validation



Computer turn

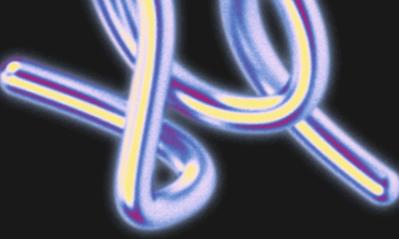


- Analyzes both last cards of the discard piles and searches for the best combination for each one, starting from the objective of discarding the cards with a higher score

- If it doesn't find any combinations, it draws a card and searches again

- In both cases, if a combination is found, it is returned to the match which will update the instance and check if the turn or game is over

- Returning the Match model to the Frontend



The screenshot shows a dark-themed user interface for a game. At the top left is a circular profile picture with a back arrow. Next to it is the name "GiuseppeGarozzo". Below the profile are two tabs: "LEADERBOARD" (highlighted in blue) and "YOUR MATCHES". The main area is titled "Leaderboard" and contains a table with the following data:

Place	User	Matches	Won	Lost	Won Rate
1	ProfMalgeri	5	4	1	0.80
2	VincenzoMaiorana	5	3	2	0.60
3	DavideRodo	2	1	1	0.50
4	DavideBrancato	2	1	1	0.50
5	GiuseppeGarozzo	4	1	3	0.25

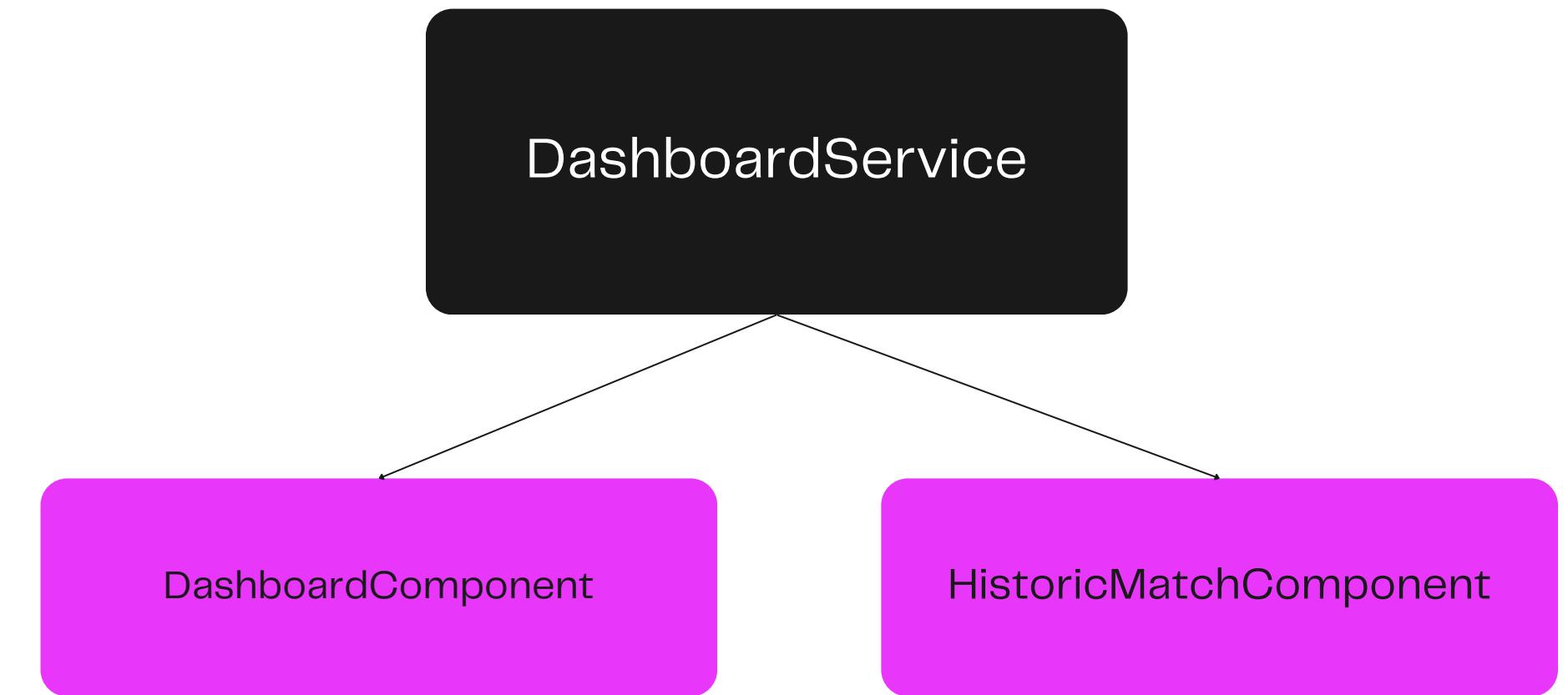
At the bottom is a large orange button labeled "Play new match".

FRONTEND FUNCTIONALITY – LEADERBOARD

- ➊ The sorting occurs by calculating the average between the games played and the games won
- ➋ Game-oriented user experience, the play button is always shown

Dashboard structure

- The dashboard component is designed to provide a complete overview of user activities, with a focus on viewing the leaderboard and match history. To efficiently organize this complexity, a nested routing system was implemented.
- The dashboard service plays a key role, providing data to the components



FRONTEND FUNCTIONALITY – MATCHES

- The user has the possibility to view all his matches, both those in progress and those concluded with the related data on scores and rounds
- Matches can be deleted from your history and it is possible to continue playing current matches from where you left off

The screenshot shows a user profile page titled "GiuseppeGarozzo". Below the profile is a navigation bar with "LEADERBOARD" and "YOUR MATCHES" tabs, with "YOUR MATCHES" being active. The main content area is titled "Your matches" and contains a table with the following data:

Match	State	Round	Your Score	AI Score	Actions
20	In progress	3	26	44	⟳ ✖
4	Lost	4	208	83	✖
3	Lost	4	246	58	✖
2	Won	4	91	192	✖
5	In progress	1	0	0	⟳ ✖

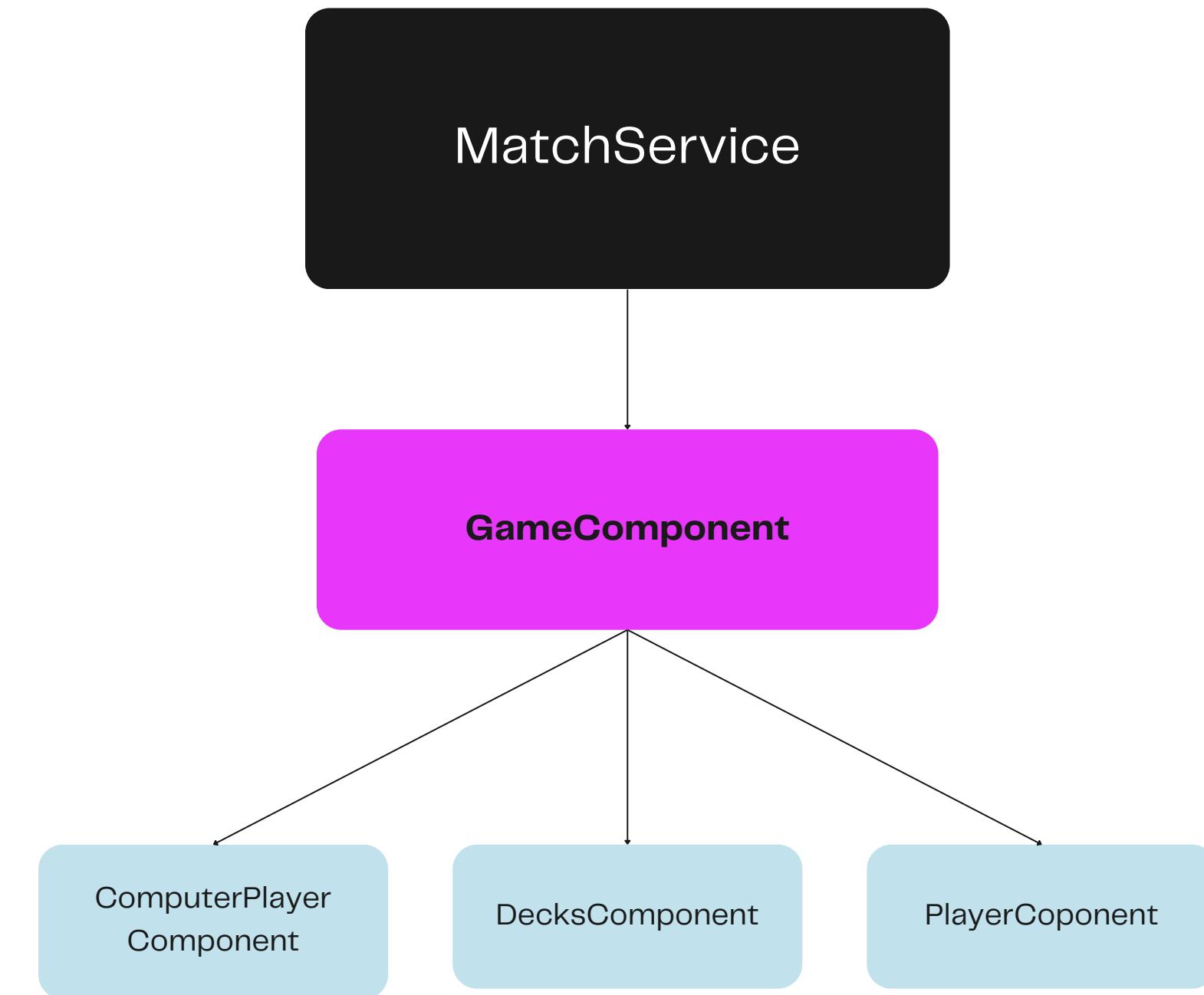
At the bottom of the screen is a yellow button labeled "Play new match".

The Game



Game structure

The section of the site dedicated to gaming is structured in a clear and modular way, with a design that facilitates user interaction with the game. The **MatchService** plays a crucial role by providing fundamental data to the **GameComponent**, the heart of the section, that is responsible for distributing data effectively between three key components: **ComputerPlayerComponent**, **DecksComponent** and **PlayerComponent**.



Thanks!

To all the teachers and Free Mind Foundry for the incredible educational journey. Through this path, I have made considerable personal and professional progress, enriching myself with new skills and perspectives. Your guidance and support have contributed significantly to my growth journey. Thank you very much for this extraordinary learning and development opportunity.

