

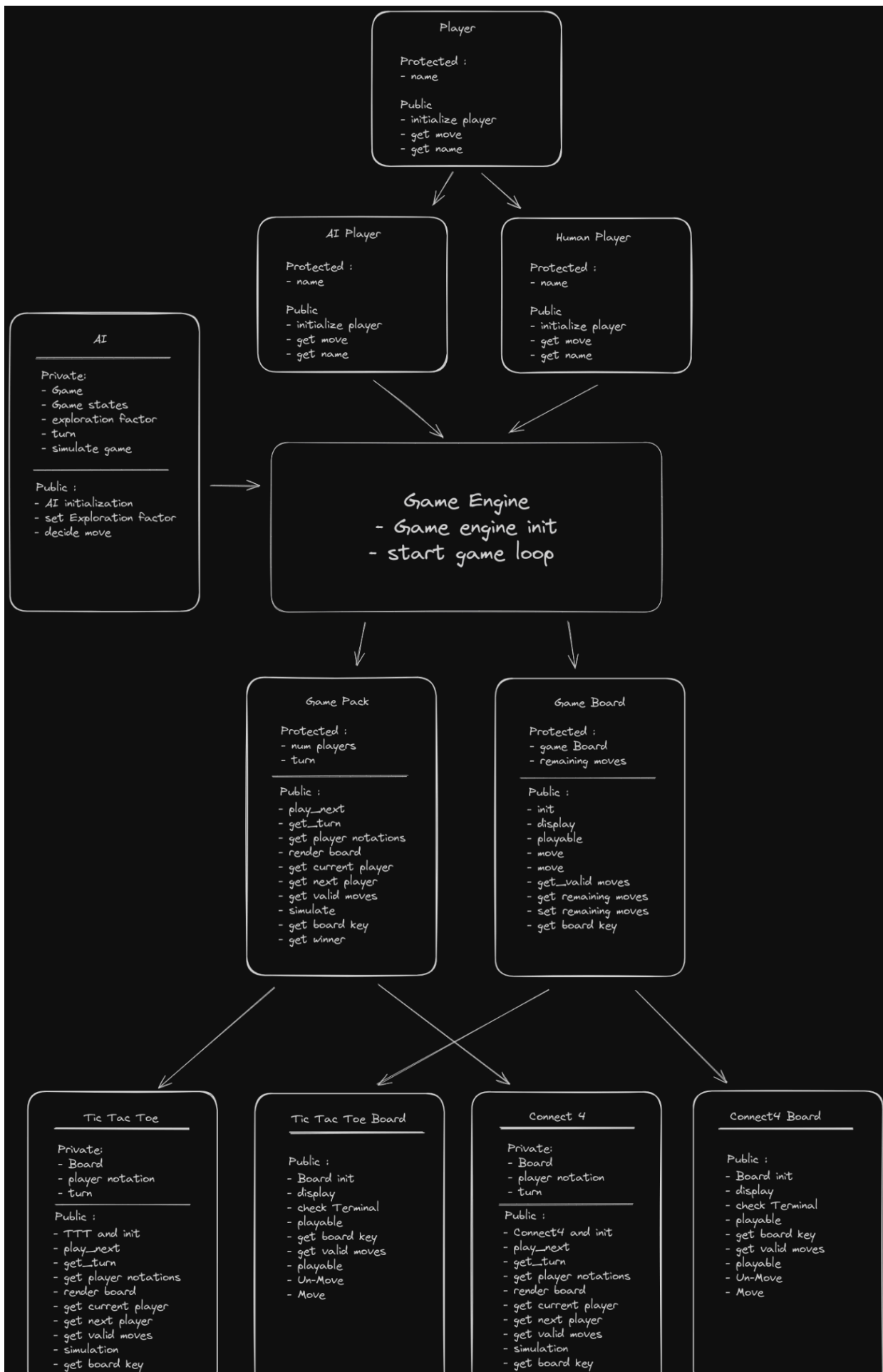
# Generic Game Engine Prototype

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## a. Project Introduction :

- We Introduce our state-of-the-art Generic Game Engine, written in C++, designed to run any game , elevating the possibilities . This powerful engine is capable of seamlessly playing a multitude of games, from classic Tic Tac Toe to strategic Connect Four, with the ability to effortlessly integrate new game logics. Our engine is built on the foundation of robust and versatile programming concepts, such as templates, variadic templates, and function overloading, ensuring a flexible and adaptable framework for any gaming scenario. With the capability to support multiplayer games, as well as Player vs Player matches, this engine is the ultimate tool for unlimited gaming possibilities. At the heart of our engine lies an AI that is capable of playing any game , the AI while efficient, may underdeliver in certain situations. However, this serves as a powerful foundation for the development of future AI algorithms, paving the way for stronger and more robust artificial intelligence implementations.

Here's the architecture of the project :



b. List of GP features you have used in your project

- Structures
- Classes
- Operator Overloading
- Virtual Functions
- Multiple Inheritance
- Templates
- Partial Specialization
- Parameter Pack and expansion
- Variadic Templates
- Variadic Alias Template
- Fold expressions
- Type Traits and Concepts

c. Individual contribution (All team members contributed to all is not an acceptable response.)

- Avanish Shenoy : The architecture implementation of Engine Files - Gameboard.h , GameEngine.h , GameTraits.h Player and State.h , Modification and Improvisation of Architecture , Implementation of Tic tac toe files with the help of ramesh,Implementation of Connect 4 with ramesh , AI help.

- Rameshwar DL : Overall Design of the Architecture , Modification and improvisation of the architecture 2,Hell lotta bug fixing , implementation of Game engine , Implementation of Tic tac toe , Implementation of Connect4 and it's board with the help of avanish , Implementation of AI .

d. Link to the Git repository

- [Link to the Github repository]([https://github.com/capnmav77/TIX\\_TAX\\_TOX](https://github.com/capnmav77/TIX_TAX_TOX))

e. List of known bugs

- AI does not live upto standards .

- Connect4 requirements are computationally expensive causing using a substandard but efficient ai.