

**MAJOR PROJECT**

**TRADERS**

EARN RENT SPENT

**On**

**GAME DESIGN AND DEVELOPMENT**

**SUBBMITTED TO SUBBMITTED BY**

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**Introduction**

"**Traders**" is an engaging table top **board game** set in a world where **2 to 4 players** delve into the realm of real estate.

With a roll of the dice, players navigate the game board, purchasing properties, engaging in trades, and strategizing their way to success by outsmart their rivals in a **race to financial dominance**.

Players are tasked with **buying properties** in various countries, encountering special tiles, and engaging in a variety of events and interactions. The game continues until players successfully outmaneuver their opponents, avoiding bankruptcy, and emerging as the last player standing—the **ultimate winner.**

The core mechanics of "Traders" revolve around the concept of **earning, renting, and spending**. Players have the opportunity to earn income from their properties, collect rent from opponents who land on their owned spaces, and make strategic expenditures to grow their portfolios.

The game also incorporates chance elements, bonus opportunities, community chest interactions, jail scenarios, club visits, resort visits, and other exciting events that can either boost their financial standing or hinder their progress

Multiple gameplay options are available, including **multiplayer online** with random players, creating and **joining rooms** with friends, and **local play** by sharing a single device.

It combines elements of **luck, strategy, and negotiation**. The game encourages players to develop skills such as critical thinking, financial planning, and resource allocation, making it an educational and entertaining experience.

With its appealing music and charming sound effects. "Traders" delivers an **interactive and enjoyable experience**. Each playthrough offers **endless possibilities**, where players can experience both **financial pitfalls and triumphant comebacks**.

**Key Features**

1. **Visually Stunning 2D Art Style with Immersive 3D Effect:**

"Traders" boasts a visually striking 2D art style that incorporates an immersive 3D effect. The skillful use of perspective creates a sense of depth and dimension, giving players the feeling of navigating a three-dimensional world.

1. **Expanded Game Board with More Tiles:**

Experience a larger game board than regular board games. "Traders" offers a vast playing area with over 45 countries and 10+ special tiles. These special tiles, along with new interactive elements, enhance the classic Monopoly game experience, providing fresh and exciting gameplay.

1. **Three Routes for Strategic Navigation:**

Stand out with the game's unique feature—three different routes to choose from: air, water, and land. This allows players to strategically traverse the game board, offering diverse paths and unlocking new strategic opportunities.

1. **Versatile Gameplay Modes**:

Enjoy a variety of gameplay modes tailored to your preferences. Challenge AI opponents in bot vs. player mode, form alliances and compete against other teams in team vs. team mode, or test your skills against friends in thrilling player vs. player matches. "Traders" offers engaging options for every type of player.

1. **User-Friendly Interface:**

The game's user interface is designed to be simple, intuitive, and easy to navigate. This ensures that players of all ages and experience levels can easily grasp the mechanics and enjoy a seamless gaming experience.

1. **Balanced and Fair Gameplay:**

"Traders" emphasizes fair gameplay for all players. The game mechanics are carefully balanced to create a level playing field, ensuring that luck, strategy, and skill are all factors in determining success. Every player has an equal opportunity to thrive and emerge victorious.

**Software Development Technique Used**

# Spiral Model

The Spiral model is an iterative software development methodology that combines elements of both waterfall and iterative development approaches. It is a risk-driven model that emphasizes flexibility and allows for continuous refinement and enhancement throughout the development process.

In the context of developing "Traders," the Spiral model would have been utilized to guide the game's creation and ensure its successful implementation. Here are some key details about the Spiral model:

**1. Iterative Approach:** The Spiral model breaks the development process into a series of iterations, or spirals, where each iteration represents a phase of the project. This allows for continuous feedback and improvement throughout the development lifecycle.

**2. Risk Analysis:** The Spiral model places a strong emphasis on risk analysis and management. It involves identifying potential risks early in the process and incorporating risk mitigation strategies into the development plan. This helps to minimize uncertainties and address potential challenges proactively.

**3. Phases:** The Spiral model typically consists of four main phases: Planning, Risk Analysis, Engineering, and Evaluation. Each phase involves specific activities and deliverables, and the process moves through these phases in an iterative manner.

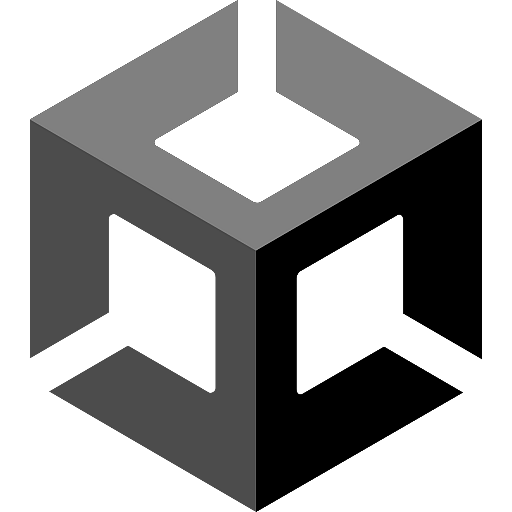
**4. Incremental Development:** The Spiral model supports incremental development, which means that the project is divided into smaller increments or releases. This allows for the delivery of functional components or features at different stages of the development process, providing early value to the end-users.

**5. Flexibility and Adaptability:** The Spiral model allows for flexibility and adaptability throughout the development process. It enables adjustments and refinements based on feedback and changing requirements, ensuring that the final product meets the desired goals and objectives.

**6. Continuous Improvement:** The Spiral model promotes continuous improvement through regular evaluation and feedback loops. This allows for the incorporation of lessons learned from each iteration into subsequent cycles, leading to a more refined and high-quality end product.

By adopting the Spiral model, the development team behind "Traders" would have followed a systematic approach that allowed for risk management, iterative development, and continuous improvement. This would have helped in creating a robust and polished game that meets the requirements and expectations of the players.

**Software and Hardware Requirement**

1. **Pixel Lab:** For creating the game assets, I used utilized Pixel Lab, a free application available on the Play Store for Android. However, alternative software options like Adobe Photoshop or Lightroom can also be used for asset creation. Pixel Lab does not have specific RAM requirements mentioned. **However, to ensure smooth performance, it is recommended to have a device (Android) with a minimum of 2 GB RAM.**
2. **Game Engine:** Unity is the chosen game engine for development. To get started, download Unity Hub and install Unity from there. Unity provides all the necessary libraries and tools for developing Android games. You may need to add additional packages through the Unity Editor, such as JDK, IDE, and relevant Game Development kits, which are available in the Unity installer package. **RAM: Unity recommends a minimum of 8 GB RAM. However, depending on the complexity on projects.**



**3. Visual Basics:** Visual Basics was used for coding purposes. During installation, you can set it up to be compatible with Unity for game development. RAM: Visual Studio **requires a minimum of 2 GB RAM. However, Microsoft recommends having at least 8 GB RAM or more for better performance**, especially when working on large projects or multiple instances of the IDE.

**In summary**, the software requirements for developing "Traders" include utilizing Pixel Lab for graphic asset creation, installing Unity through Unity Hub, and configuring Visual Basics to work seamlessly with Unity for coding purposes.

**The System Specifications that I used for Game Development:**

Operating System: Microsoft Windows 11 Home

Processor: 11th Gen Intel Core i3-1115G4 @ 3.00 GHz, 2995 MHz, 2 Cores, 4 Logical Processors

RAM: 8 GB

System Name: GAGANBARTWAL

System Type: x64-based PC

**Game Details and Requirements to Play**

Genre: Board Game, Strategy

Built-in: Unity game engine

Target Audience: 8+

Platform: Android

Minimum Requirements: 2 GB RAM

Play Time: Up to 180 minutes

Version 1.0 (demo)

"Traders" is a captivating board game that falls under the genres of **board game and strategy**. Developed using the powerful **Unity game engine**, this game is optimized for Android devices and requires a **minimum of 2 GB RAM** to ensure **smooth gameplay**.

With its engaging mechanics and strategic gameplay, "Traders" offers an immersive experience for **players aged 8 and above**. Whether you're a seasoned strategist or new to board games, this title provides a challenging and rewarding gameplay experience.

The game's playtime can range **up to 180 minutes**, offering hours of fun and excitement. Players will find themselves immersed in the world of commerce, making strategic decisions, negotiating trades, and managing their resources to emerge victorious.

"Traders" is designed to provide a visually appealing and intuitive user interface, ensuring a seamless gaming experience even on devices with modest specifications. Its **optimized** performance and engaging gameplay make it an ideal choice for board game enthusiasts and strategy lovers alike.

Embark on a thrilling journey of wealth accumulation, strategic planning, and intense competition in "Traders" on your **Android device.**

**Immerse yourself in the visually captivating world of "Traders" where expanded game boards, multiple routes, versatile gameplay modes, and balanced mechanics await. Whether you're a casual player or a seasoned strategist, this game promises an exciting and engaging experience for all.**

**Property Rate Logic**

**The sites I used to find the property rate logic for the project, mention below:**

**Wikipedia (www.wikipedia.org)** is a widely used online encyclopedia that offers detailed information about various topics, including countries' GDP, population, and land size. It provides well-referenced articles written by contributors from around the world. When using information from Wikipedia, it's always a good practice to cross-reference the cited sources and verify the accuracy of the data.

**WorldOmeter (www.worldometers.info)** is a trusted source for real-time statistics on various global topics, including population, GDP, and other key indicators. It provides updated data from official sources and offers comprehensive information in an easily accessible format. WorldOmeter can be a valuable resource for obtaining the latest population and GDP figures for different countries.

**Assets and Others**

**The best sites I used to download images , mention below:**

**Freepik (www.freepik.com)** provides a vast collection of free and premium graphics, including illustrations, icons, templates, and more. It offers a user-friendly interface and allows you to filter assets based on your specific needs.

**Pixabay (www.pixabay.com)** is a well-known platform that offers a large library of high-resolution images and videos, all released under Creative Commons CC0. You can find a diverse range of visuals, from landscapes to objects, that can enhance the visual appeal of your game.

**Unsplash (www.unsplash.com)** is another excellent resource for high-quality, royalty-free images. It features a wide selection of photos contributed by talented photographers. The images on Unsplash are free to use and can bring an artistic touch to your game project.

**I don’t have the track of the original owner of the images , but in future I will mention them/ their attribute in** "Traders" **credits scene , but thanks to all of them providing me their Resources ( JPG, PNG ).**

**Scope of the Game**

The scope of Traders as a game is extensive and offers unique opportunities for players. Here are some aspects of its scope:

**1. Engaging Gameplay:** Traders offers an engaging and immersive gameplay experience, combining elements of **strategy, negotiation, and resource management.** Players navigate the game board, buy properties, engage in trades, and make financial decisions to outwit their opponents.

**2. Educational Value:** Traders provides educational benefits by teaching players about real estate, money management, and decision-making in a business context. It offers insights into **economic concepts and strategic thinking, enhancing players' knowledge and skills.**

**3. Global Appeal:** Traders incorporates geographical elements by featuring various countries and neighboring regions, making it relatable to players around the world. **The use of Indian currency (rupees) adds a unique touch and promotes cultural awareness.**

**4. Enhanced Game Board:** Traders offers a larger game board compared to traditional board games, **featuring more tiles representing different countries and special interactive tiles.** This expands the gameplay possibilities and adds depth to the overall gaming experience.

**5. Strategic Routes:** The availability of three routes **(air, water, and land)** in Traders allows players to strategize their movements and make informed decisions about their journey across the game board. This adds a layer of strategic planning and provides players with different options for exploration.

**6. Diverse Game Modes:** Traders offers various game modes, including **bot vs. player, team vs. team, and player vs. player**, catering to different player preferences and allowing for diverse gameplay experiences.

**7. Accessible User Interface:** Traders features a user-friendly interface that ensures easy navigation and accessibility for players of all ages and skill levels. This makes it suitable for a **wide range of players**, including those new to board games or game development.

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**8. Balanced and Fair Gameplay:** Traders aims to provide balanced and fair gameplay for all players, ensuring that everyone has an equal chance of success. This **promotes healthy competition and encourages strategic thinking.**

**Through its captivating gameplay, educational value, and accessible design, Traders offers a unique and enjoyable gaming experience for players. And I hope its strategic elements, geographical immersion, and cultural references create a dynamic and engaging game that can be appreciated by a wide audience .**

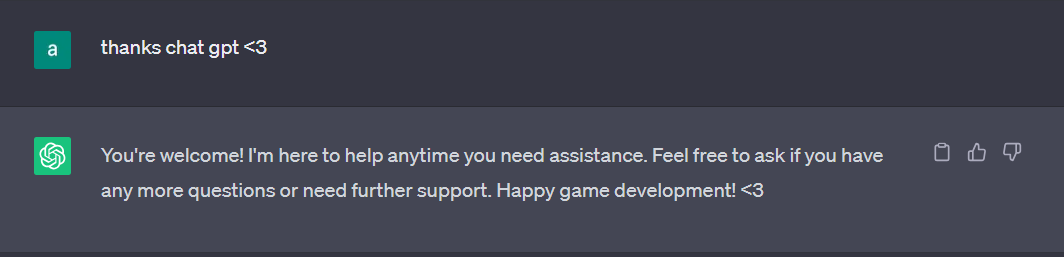
**Chat GPT**

As an **AI language model**, ChatGPT can be a **valuable assistant** in providing code snippets, guiding you with code structure, and offering instructions on how to use Unity. With its extensive knowledge base and programming expertise, ChatGPT can help you understand Unity's features, components, and best practices for game development.

When you need code snippets for specific functionalities or solutions, you can ask ChatGPT to provide examples in various programming languages commonly used with Unity, such as C# or JavaScript. It can **assist you with coding patterns, syntax, and logic to achieve desired outcomes** in your game projects.

Furthermore, ChatGPT can explain Unity's concepts and workflows, including scene creation, asset management, scripting, and game object manipulation. You can ask questions about Unity's user interface, editor features, and various features like Events, PreFabs or etc.

Whether you're a beginner seeking guidance on Unity's basics or an experienced developer looking for more advanced techniques**, ChatGPT can provide step-by-step instructions, explanations, and tips to help you achieve your goal**s. It can also assist in troubleshooting common errors or suggesting optimizations for your Unity projects.



**Special thanks to ChatGPT for its invaluable assistance in providing code snippets, offering guidance on Unity, and helping game developers bring their creative visions to life.**

**Inspiration**

**MONOPOLY,** a classic board game, is widely recognized and has been a source of inspiration for various adaptations and game designs. It involves strategic decision-making, property acquisition, and economic transactions, making it a popular choice for game developers.

**INTERNATIONAL BUSINESS GAME** by the brand EKTA, which originates from India. This further emphasizes the influence of real-world economic concepts and business strategies in the project.

**MONOPOLY** and **INTERNATIONAL BUSINESS GAME** inspired me a lot to build "Traders".