

MOBA Tactics

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1 Project Overview

1.1 Concept

(Game) is a turn based multiplayer strategic king of the hill role-playing game where every step must be masterfully planned, because no mistake goes unpunished. Up to 4 players can play on this grid based playing field, battling NPCs and each other all over the map for control of the hill. Controlling the hill long enough will claim you victory and glory over your adversaries.

1.2 Design

The stage for our product is a grid based tile map that will hold one character within a single segment of the map. The objective of the game is to accumulate 1000 points from taking control of the designated "hill" area where players will fight over to control and gain points. Around the area will be NPCs to defend this area from oncoming player characters.

1.3 Logistics

- Platform: PC
- Target Audience: Males, ages 12-35

1.4 Teams

<u>Client</u>	<u>Server</u>	<u>Network</u>	<u>Database</u>
Mathieu*	Austin*	Eddie*	Vlad*
Alejandro	Fred	Jae	Dylan
Mike R	Michael k	Chemel	Norbert
Mike D	Marc-Antoine	Stephen	Alex
Gabe	James	David	
Nicholas	Trey	Karl	
Jesse		Patrick	
Kees			

2 GAMEPLAY

2.1 Overview

When the player launches the game, they will have to first create a team of characters offline in which they will select a base class for each of them. They will then be able to join a game after they create their team.

When at least two players have joined a lobby they can get into the game. The server will decide where the players will spawn on one of two corners of the map. The server will then chose who gets the first turn randomly. The player who gets the first turn will then be able to perform actions with their character with the options to: Move, Attack, Defend or perform a Special Ability which will be selected via menus. Doing any one of these actions will take a few allotted action points and the player's turn will end when they use all their actions points. When the first player's turn ends, the second player will be able to take their turn. The game will continue cycling between players turns until one of the players reaches the victory condition.

The game mode is King of the Hill, where a player will need to be positioned and maintain control of the center of the map to gain victory points. For a team to win, they will need to reach 1000 victory points. However, the center of the map has strong NPC monsters which players will not be able to kill initially.

Players will need to kill smaller, weak monster camps around the map to gain experience and level up their characters before attempting to siege the center of the map. While traveling, players will also need to keep terrain tiles in mind because it can affect how a character moves or defends. For example, a character moving over a road tile may be able to move further. Players should also try to kill characters of other teams to gain experience from them, and putting them on a respawn timer when they die.

2.2 Mechanics

2.2.1 Controls

A player can control their characters using the menu systems. Players can use either Mouse clicks or a combination of WASD/Arrow Keys, Spacebar/Enter Key and Escape Key to navigate menus. When choosing a target of either *Attack* or certain *Special Abilities* a player may either click on the tile of the desired target or use WASD / Arrow keys to choose targets.

Menu Navigation:

Actions	Keys										
	W	A	S	D	←	↑	→	↓	Spacebar	Enter	Esc
Move Cursor Up	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Move Cursor Down	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cancel	<input type="checkbox"/>	✓	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
Accept	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>	✓	✓	<input type="checkbox"/>

2.2.2 Attributes

Characters have six (6) different attributes, these are: *Health*, *Action Points*, *Attack Power*, *Defense*, *Range*, *Speed*.

Health

Represents how healthy a character is. Cannot exceed Maximum Health. When it reaches zero (0) the character dies and will respawn at their team spawn location.

Action Points

Actions performed during a turn cost *Action Points*. *Action Points* cannot exceed Maximum Action Points. *Action Points* are restored at the beginning of the character's turn. When all *Action Points* have been spent the character's turn is over.

Attack Power

Measures the strength of the character. Damage dealt by the character's *Attack* is equal to its *Attack Power*.

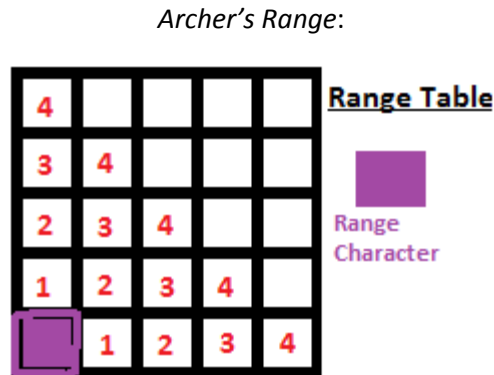
Defense

Measures the toughness of the character. Damage dealt to the character is reduced by its *Defense*, to a minimum of one (1).

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Range

For each *Range* a character has, their *Attack* action will reach one (1) adjacent tile.



Speed

Determines how fast the character is. Reduces the *Action Points* used when performing the *Move* action.

2.2.3 Leveling

During gameplay players will slay monsters and characters of different teams, receiving *Experience Points* (XP). When enough XP has been gained by the character he/she will have gained a *Level* and *Skill Points*.

During their turn a character may spend *Skill Points* to increase their *Attributes* and/or to acquire *Special Abilities*.

2.2.4 The Turn

Turn order is randomly assigned at the beginning of the game. Players will take turns first, followed by the Non-Player Characters (NPCs).

At the beginning of the character's turn *Action Points* are restored to full, and if they are on their spawn point they also restore some health.

During a character's turn they may perform many actions. The different actions that may be taken are: *Move*, *Attack*, *Special Ability*, and *Defend*. Actions cannot be performed if the character doesn't have as many *Action Points* as the action's cost.

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Once all of the *Action Points* of the character have been spent, the turn ends and moves to the next character.

2.2.4.1 Move

A character may move to another adjacent tile at the cost of *Action Points*. The cost of movement is equal to the tile's *Terrain Difficulty* minus the character's *Speed* to a minimum of one (1).

2.2.4.2 Attack

Combat occurs when a character performs the *Attack* action (or certain special abilities) on a character of another team or a neutral monster. Characters can only attack targets within its *Range*.

Using the *Attack* action uses *Action Points*.

2.2.4.3 Special Ability

The *Special Abilities* a character has may do a variety of things: from restoring health, to moving other characters. *Special Abilities* are unlocked using *Skill Points* (which are earned by Leveling Up).

2.2.4.4 Defend

Using the *Defend* action will consume all remaining *Action Points* to increase the character's *Defense* (proportional to the amount of *Action Points* used) until his/her next turn.

2.2.5 Terrain

The world is made up of *Tiles*. Each tile has a *Type*, *Terrain Difficulty*, and in special cases a *Scoring Value*.

Type

There are many types of terrain: Grass, Road, Swamp, etc. Some types may affect an *Attribute* of the character occupying it.

Terrain Difficulty

How difficult the terrain is to traverse. A higher value means harder to move through.

Scoring Value

Certain tiles will award *Victory Points* to characters who are occupying them at the end of the NPCs' turn.

2.2.6 Scoring

In **MOBA Tactics** there are two (2) ways to gain *Victory Points*: Killing characters of the other Player's team, or being on a tile with a *Scoring Value* at the end of the NPCs' turn.

In order to win the round players must gain *Victory Points*. Once a team has gained at least the required amount of *Victory Points* they win.

2.2.7 Character Creation

In order to participate in a round of **MOBA Tactics** players must have first created their team of characters. Team sizes range from one (1) to three (3). Once the player has created their desired team they will save it for use in future rounds.

Characters must have a *Class*. There are three (3) different classes that a character can become. They are: *Warrior*, *Rogue*, and *Archer* [Possible fourth (4th) class: *Mage*].

Class Attributes:

Class	Attributes					
	Health	Action Points	Attack Power	Defense	Range	Speed
Warrior	High	Medium	High	High	1	Low
Rogue	Medium	High	Low	Medium	1	Medium
Archer	Medium	Medium	Medium	Low	3	Medium

2.3 Networking

2.3.1 Client:

Local Options - Any options pertaining to the client that is being accessed will have some options available such as window resizing / fullscreen, sound level, game quality, etc.

Character Customization – The game will allow players to create and customize teams of characters. They can select and change their characters' class. They will be able to do this in a customization screen before they join a multiplayer game.

Player Input – Any input such as mouse clicks, and keyboard input will be handled client side.

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Graphical User Interface – Any elements such as menu navigation, user interface, and any other information that will be displayed in-game will be handled client side.

Game Output – Allows the player to see what their input and their opponents' input was and how it affected the game state. An example would be if a player inputs that they want a character to move, it will show up on the screen as having moved after the action is confirmed.

2.3.2 Server:

Joining Server/Lobby - For early versions of the game, we will only have one server running with a max of 2 players. As a result, when anyone past the second person tries to connect they will be denied from joining the lobby (no sockets available for them to connect to). In later versions, a new server will be created which a third or fourth person can join.

Disconnecting Server/Lobby – For the 2 player mode, if a single player disconnects during the game the server will wait for the player to reconnect to continue. If so much time passes and the disconnected player didn't reconnect the game ends with the still connected player as the winner.

Player's Actions (In Match) – Whenever a character performs an action (move 2 spaces to the right, attack enemy character 1 space to the left, defend, etc.) the server will handle the appropriate response and the appropriate data would be sent to the rest of the clients that are connected to the server.

Turn Management (In Match) – The server determines whichever player is able to do any actions at a given time. When a player's turn finishes, the server rotates between players and the other players' input will not be recognized as viable input until their next turn.

2.3.3 Database:

Character Creation Data – When a player customizes their character they will have the option to save their customized character on their database. The database will keep list of their character's personal stats and that team's win/loss ratio.

Character Statistics – During a game, characters statistics will be saved. For example, steps taken, damage taken, number of kills, etc.

3 Story

Kingdoms are politically fighting over land after an agreed ceasefire from years of war. With no kingdom gaining visible advantage and threats of continuing the war, both kingdoms agree to hold "matches" in said land. These matches consist of teams assembled to strategically capture a designated castle. Claiming victory in the lands of "Nemo" allows a kingdom the right to name and add that land to his kingdom. The terms agreed upon are as follows: Teams of 3 men and woman will be participating, beast tamers have rounded up and released creatures among the land, certain creatures have been trained to guard the castle to prevent the representatives of each kingdom from entering with ease. The kingdoms ready their finest warriors from across their lands to participate and fight for honor and glory.

4 Art

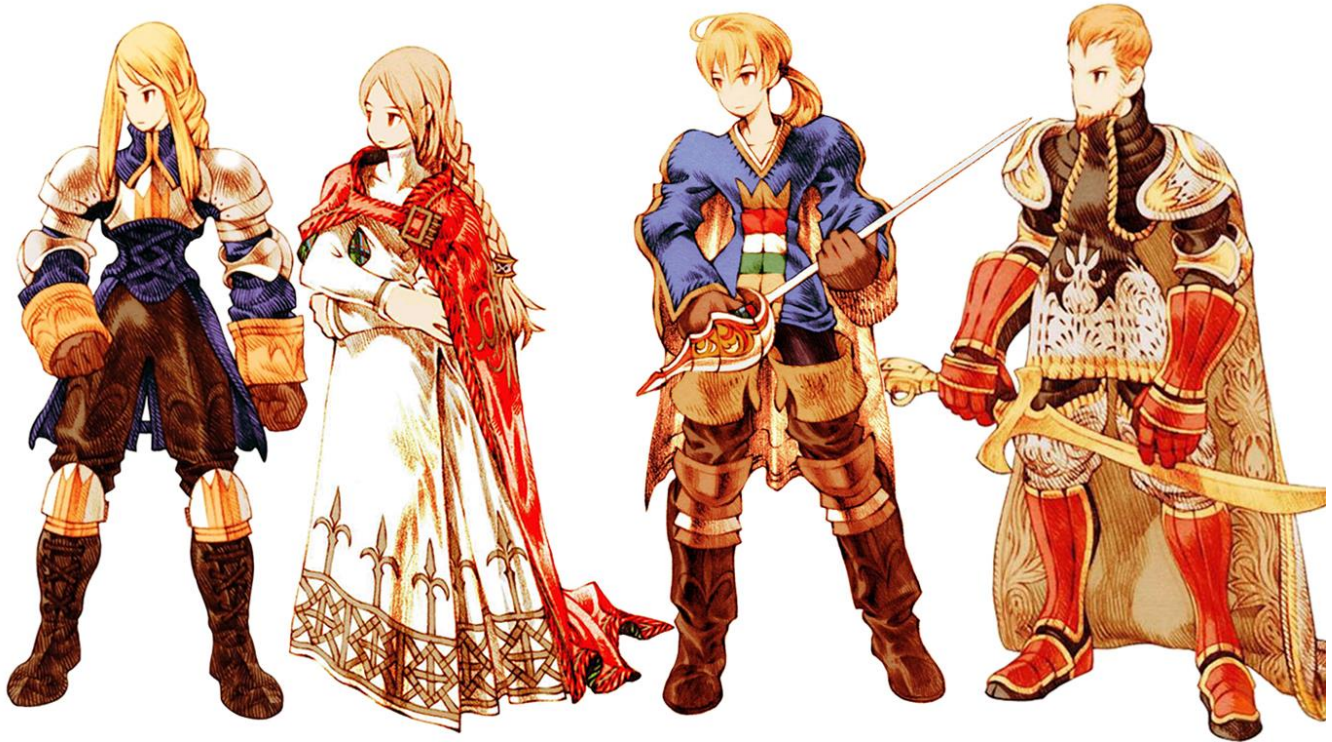
4.1 Visual

Our game will have fantasy style art, with pixelated sprites. The game will be in an isometric view of a grid-based battlefield, around 21 x 21 cells.



4.1.1 Players

Players will control 3 units on a single team. Users will also be able to construct a team out of multiple classes such as: Fighter, Rogue, Archer and possibly Mage.



4.1.2 UI

Our UI will be as simple as possible: it will need to consist of menus at the bottom of the screen for selecting actions, movement and special abilities. Menu screens will be standard: Main menu, Pause, Options and so on. Menus will be low resolution with a solid blue back and a white border much like the old Final Fantasy games, menus in game will be semi-transparent.



4.1.3 HUD

Our HUD will display attributes such as Health Points, Action Points and status effects. HP will be displayed above all units that are below 100%. Players will be able to hover over other units and see details above them. These details will be displayed over top of the action menu. When players want to perform actions they will de-target everything and perform their action as normal. When an action is selected the effective range will be highlighted.

4.1.4 Level

Each level will be themed towards fantasy; it will be a 21 x 21 grid in isometric view. Levels will consist of multiple terrain types and elevation. There will also be a neutral territory in the center of each level.

4.1.5 Animations

For each class there will be an animation for each action. Animations are as follows:

- Idle: 3 frames

- Move: 4 frames

- Basic Attack: 4 frames

- Defend: 3 frames

- Special Attack / Magic: frames depend on class and ability

4.1.6 Tiles

For each terrain type there will be a tile associated with it. Tiles will not be animated and will have 2-3 variations to create a more natural look.

4.2 Audio

The menu screen will consist of one track, as well as sound effects. For example: navigation through the menu items, or selecting a menu item. While in-game, a battle soundtrack will be playing for the duration of the match.

The character sound effects include leveling up, casting an ability or spell, dying or getting hit, entering the scoring zone, re-spawning, and a loss or victory sound.

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Monsters have similar sound effects. These sound effects include getting hit or dying, re-spawning and attacking.

Making the combat sounds and other sound effects dominant over the background music is necessary in order to avoid annoying players with a recurring song.