

# RTMobas

## *Game Design Document*

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# *Game Design*

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## **Summary**

Alternative Medieval themed RTS with Moba elements. Multiplayer focused with 2 teams of 4 (Consisting of 2 RTS players and 2 MOBA players) are trying to destroying the opponents castle.

## **Gameplay**

Gameplay involves collecting resources, spending it on training units, buildings, or upgrades, and manage an army / hero. The goal is to destroy the enemy castle. The obstacles are: Managing an economy, scouting the enemy, countering the enemy, and employing tactics. To overcome these obstacles, one must micromanage their units / hero, macro-manage their economy, and strategize a way to defeat the opponent.

## **Mindset**

A successful team should feel coordinated and powerful. They are able to utilize a developed meta to stay on top. Whereas a failing team should feel pressured to think outside the box to counter this meta. Thus creating a feedback loop where the successful teams and failing teams often interchange depending on how the meta organically develops. All teams should feel like they need the other members to succeed.

These feelings should be provoked by making several strategies viable, especially in relation to counter other particular strategies. No strategy should shine above all others, however coordination between the RTS and MOBA players will always be critical. Part of developing the meta will be the way in which the two types of players coordinate, not just the compositions chosen

# *Technical*

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## **Screens**

1. Title Screen
  - a. Options
2. Matchmaking
  - a. Party Management
3. Game Lobby
  - a. Game Settings
  - b. Character Selection
4. Game
  - a. Menu
  - b. Chat
  - c. UI
    - i. Action Panel
    - ii. Resources
    - iii. Map
    - iv. Unit Information
5. Scorescreen

## **Controls**

The player interacts using a keyboard and mouse. In the options menu, all controls should be highly customizable. The keyboard should be used for hotkeys, camera control, control groups. The mouse is used for selection, movement, interaction with objects.

## **Mechanics**

RTS and MOBA genres are mixed into one game.

Teams are split into two subdivisions, 1 - 2 RTS players and 2 - 3 MOBA players work together. Share control of small groups of units between RTS and MOBA teammates.

# Level Design

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## Game Flow

### *RTS*

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1. Players start with workers at main castle and some starter structures
2. Workers are ordered to build or collect
3. Structures produce more units or upgrade
4. Create more bases for faster collection and production
5. Create army
6. Give some units to MOBA players
7. Player should also attack with their own army
8. Repeat steps 2-7 until end of game

### *MOBA*

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1. Player starts near castle
2. Scout enemy
3. Fight AI for resources
4. Upgrade Hero
5. Complete Mini-Quests for lots of resources
6. Fight enemy army / heroes
7. Control small group of units to assist hero
8. Repeat Steps 2 - 7 until end of game

# *Development*

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## **Abstract Classes / Components**

1. BasePlayer
2. BaseEntity
  - a. BaseStructure
    - i. BaseCollector
  - b. BaseUnit
    - i. BaseHero
3. BaseAI
  - a. BaseAggressive
  - b. BaseDefensive
4. BaseResource
5. BaseTile
6. BaseQuest
7. BaseResearch
  - a. BaseUnitUpgrade
  - b. BaseStructureUpgrade
    - i. BaseCollectorUpgrade
  - c. BaseHeroUpgrade
  - d. BaseQuestUnlock
  - e. BaseUnitUnlock
  - f. BaseStructureUnlock

## **Derived Classes / Component Compositions**

1. BasePlayer
  - PlayerRTS
  - PlayerMOBA
2. BaseEntity
  - a. BaseStructure
    - i. BaseCollector
      - Farm
      - Fishery

- b. BaseUnit
  - i. BaseHero \*Change to hero name's later\*
    - HArcher
    - HKnight
  - Peasant
  - Archer
  - Knight
- 3. BaseAI
  - a. BaseAggressive
    - TargetHero
    - TargetUnit
    - GuardArea
  - b. BaseDefensive
    - PatrolArea
    - HoldPosition
    - TargetAttacker
    - RunAway
  - MoveToPosition
  - Cluster
  - Separate
- 4. BaseResource
  - Gold
  - Tree
  - Fish
- 5. BaseTile
  - Desert
  - Plains
  - Swamp
  - River
  - Ocean
  - Beach
  - Mountain
- 6. BaseQuest
  - Fetch (Obtain an item spawned on map)
  - Bounty (Kill a specific NPC)
  - Protect (Keep an NPC alive for X time)

- Hunt (Kill a certain amount of an NPC)

## 7. BaseResearch

### a. BaseUnitUpgrade

- GroundAttack
- GroundArmor
- GroundSpeed
- AirAttack
- AirArmor
- AirSpeed
- **\* TODO UNIQUES \***

### b. BaseStructureUpgrade

- BaseCollectorUpgrade
  - Speed
  - Efficiency
  - Quantity
- Health
- Cost
- Repair

### c. BaseHeroUpgrade

- Attack
- Armor
- Health
- Speed
- **\* TODO UNIQUES \***

### d. BaseQuestUnlock

- **\* TODO UNIQUES \***

### e. BaseUnitUnlock

- **\* TODO UNIQUES \***

### f. BaseStructureUnlock

- **\* TODO \***



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# Graphics

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## Style Attributes

What kinds of colors will you be using? Do you have a limited palette to work with? A post-processed HSV map/image? Consistency is key for immersion.

What kind of graphic style are you going for? Cartoony? Pixel-y? Cute? How, specifically? Solid, thick outlines with flat hues? Non-black outlines with limited tints/shades? Emphasize smooth curvatures over sharp angles? Describe a set of general rules depicting your style here.

Well-designed feedback, both good (e.g. leveling up) and bad (e.g. being hit), are great for teaching the player how to play through trial and error, instead of scripting a lengthy tutorial. What kind of visual feedback are you going to use to let the player know they're interacting with something? That they *can* interact with something?

## Graphics Needed

1. Characters
  - a. Human-like
    - i. Goblin (idle, walking, throwing)
    - ii. Guard (idle, walking, stabbing)
    - iii. Prisoner (walking, running)
  - b. Other
    - i. Wolf (idle, walking, running)
    - ii. Giant Rat (idle, scurrying)
2. Blocks
  - a. Dirt
  - b. Dirt/Grass
  - c. Stone Block
  - d. Stone Bricks

- e. Tiled Floor
  - f. Weathered Stone Block
  - g. Weathered Stone Bricks
3. Ambient
- a. Tall Grass
  - b. Rodent (idle, scurrying)
  - c. Torch
  - d. Armored Suit
  - e. Chains (matching Weathered Stone Bricks)
  - f. Blood stains (matching Weathered Stone Bricks)
4. Other
- a. Chest
  - b. Door (matching Stone Bricks)
  - c. Gate
  - d. Button (matching Weathered Stone Bricks)

*(example)*

*(Note : If you're soloing you might not need to define this part, as you can just use the Derived Classes + Themes section as a reference. It's up to you.)*

# *Sounds/Music*

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## **Style Attributes**

Again, consistency is key. Define that consistency here. What kind of instruments do you want to use in your music? Any particular tempo, key? Influences, genre? Mood?

Stylistically, what kind of sound effects are you looking for? Do you want to exaggerate actions with lengthy, cartoony sounds (e.g. mario's jump), or use just enough to let the player know something happened (e.g. mega man's landing)? Going for realism? You can use the music style as a bit of a reference too.

Remember, auditory feedback should stand out from the music and other sound effects so the player hears it well. Volume, panning, and frequency/pitch are all important aspects to consider in both music *and* sounds - so plan accordingly!

## **Sounds Needed**

1. Effects
  - a. Soft Footsteps (dirt floor)
  - b. Sharper Footsteps (stone floor)
  - c. Soft Landing (low vertical velocity)
  - d. Hard Landing (high vertical velocity)
  - e. Glass Breaking
  - f. Chest Opening
  - g. Door Opening
2. Feedback
  - a. Move command reply
  - b. Attack reply
  - c. Death sounds
  - d. Sad chime (died)

*(example)*

## **Music Needed**

1. Medieval town track
2. Epic conquest track

*(example)*

*(Note : Again, if you're soloing you might be able to / want to skip this section. It's up to you.)*

# Schedule

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1. Map Rendering
  - Isometric World
  - No defining qualities (No terrain)
2. Entity Spawn (Symmetric)
  - a. Castle
    - Spawn two
  - b. Resources
    - Gold Spawn (Income)
    - Trees Spawn (Wood)
    - Water Spawns (Supply)
    - Metal Spawn (Armor)
    - Crystal Spawn (Magic)
    - Oil Spawn (Tech)
    - Create minimum and maximum spawns to prevent oversaturation
  - c. First Peasants
    - Spawn two for each castle
  - d. Initial Farms
    - 12 in total
    - 6 around each castle
3. Macro Economy
  - a. Place Structures
    - Able to place down structures (UI portion)
    - Allow Farms to be placeable
    - Allow Town Centers to be placeable
    - Allow Mines to be placeable
    - Allow Docks to be placeable
    - Allow Loggers to be placeable
    - Allow Harvester (Crystals) to be placeable
    - Allow Oil Well to be placeable
  - b. Building Management
    - Select buildings

- Hotkey select buildings
  - Area select buildings
  - Destroy building
- c. Resource Collection
  - Display current resources
  - Display UI for collector stats
  - Automatic collection until out of resources
- d. Train Units
  - On Building Select, present UI for available unit trains
  - Display cost for units
  - Create unit with sufficient resources
- 4. Unit Management
  - a. Unit Controls
    - Selection (Hotkey, area, regular)
    - Kill Unit
    - Move Command
    - Control Groups
    - Command Chaining (Shift then action type stuff)
    - Complex Commands (Patrol, Defend, Etc.)
  - b. Path Finding
    - Unit takes shortest known path
  - c. Default AI Behavior
    - Automatic Command (Auto collect resource, Etc.)
    - Move Command on Spawn
- 5. Player Separation
  - Only control their own structures
  - Only control their own units
  - Can transfer unit ownership
- 6. Combat \* **TODO** \*
  - Combat Structures
  - Combat Units
- 7. Terrain
  - Impassable
  - Slowing
  - Damaging
- 8. Multiplayer

- Lobby UI
- Server Extrapolation (Split the Server code into the server section, the client code into the client section)
- Matchmaking Server (Connection users to a dedicated server)
- Dedicated Servers (Hosts the Server Code)
- Basic connections (No optimization, no anti-cheat, no latency mitigation)

#### 9. Ogres

-----**ANYTHING PAST THIS HAS NOT BEEN FINALIZED**-----

#### 10. Title Screen

- Options UI (Allowing to configure the inputs)

#### 11. Fog of War

#### 12. Neutral Entity Spawn

- Unit Spawn On Map