GAT211: Game Mechanics

PROJECT 3

MAPS

Tyler Zwiers

Professor Radakovich

DigiPen Fall 2017

GAT211: Game Mechanics
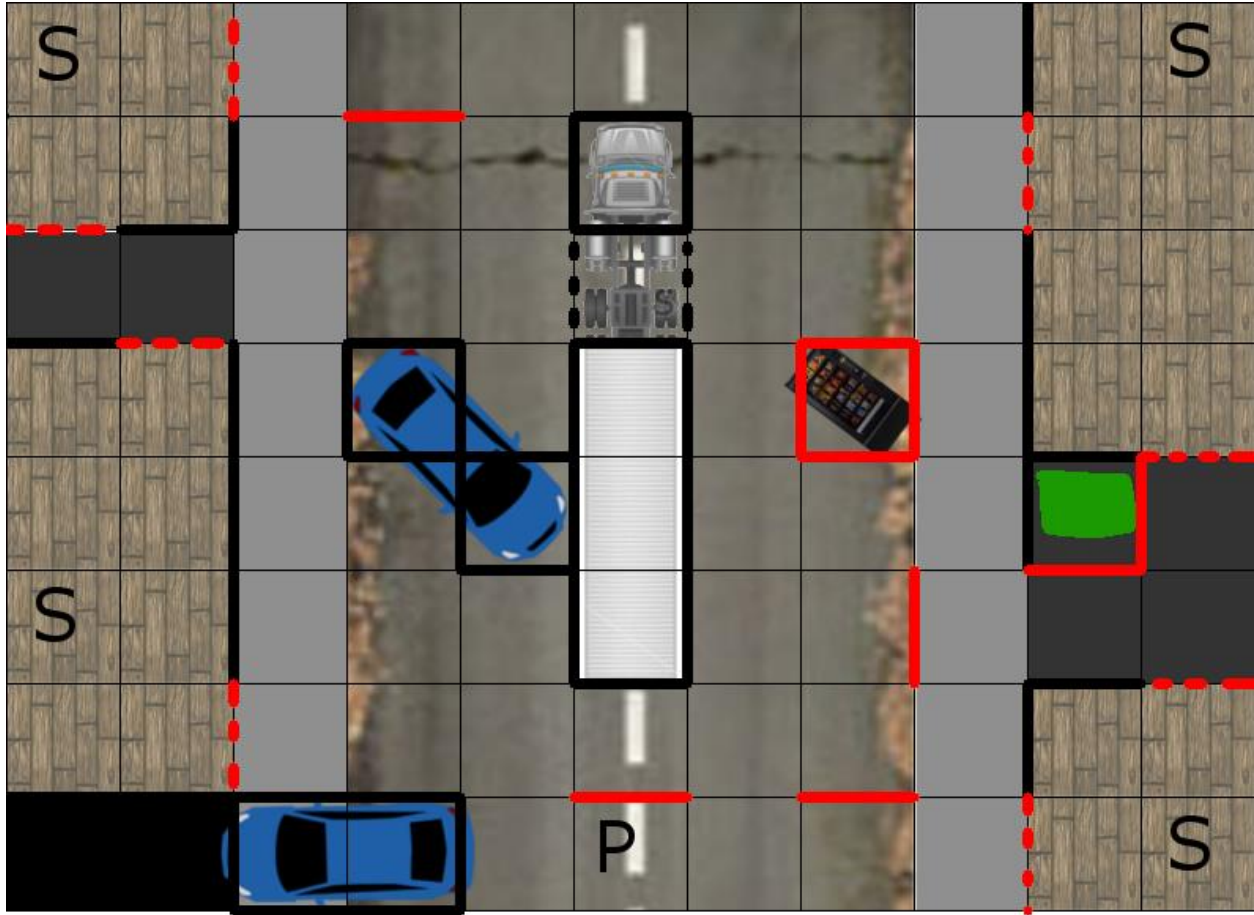
PROJECT 3

COMBAT MAP

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Hard Cover(Blocks move/LOS)
Hard Cover(Blocks move/LOS)

S Enemy Spawn Points

Soft Cover (Blocks Move/Bonus Armor)

P Player Starting Point

Doors (Bonus armor from medium
and ranged attacks)
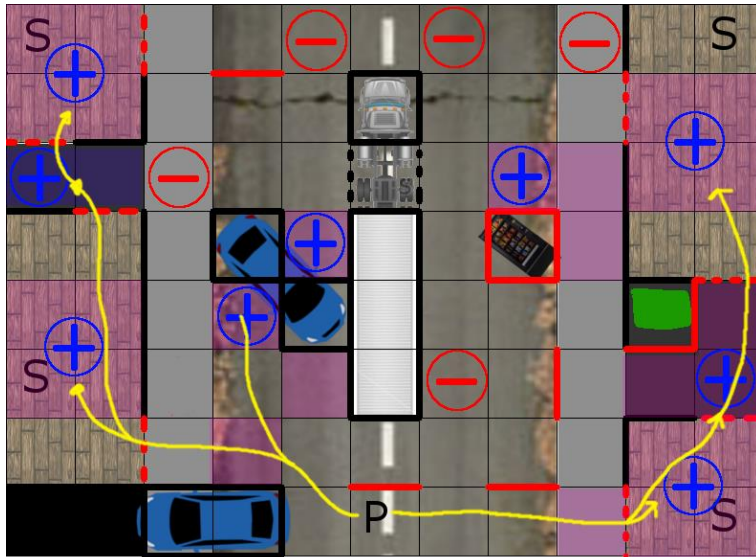
Melee Range User Type

The melee user likes all the areas that have close quarters and don't allow for much ranged combat and dislikes all the areas where they are prone to very long-range shots. They also enjoy the bits of cover that allow them to close the distance without putting themselves in a lot of danger.

Excitement	Tension
Small Buildings	Sniper Alleys
Alleyways between buildings	Low cover areas
Hard cover	Fast or mobile enemies
Soft Cover	

Spear/Mid Range User Type

The Mid-Range user likes some of the in-between areas that give them some distance from the melee users while not putting them into large lines of fire from the ranged users. It is expected that the Mid-Range user would move to one of the four inner quadrants or corners of the larger houses to force most opponents to come to them and enter their preferred range.
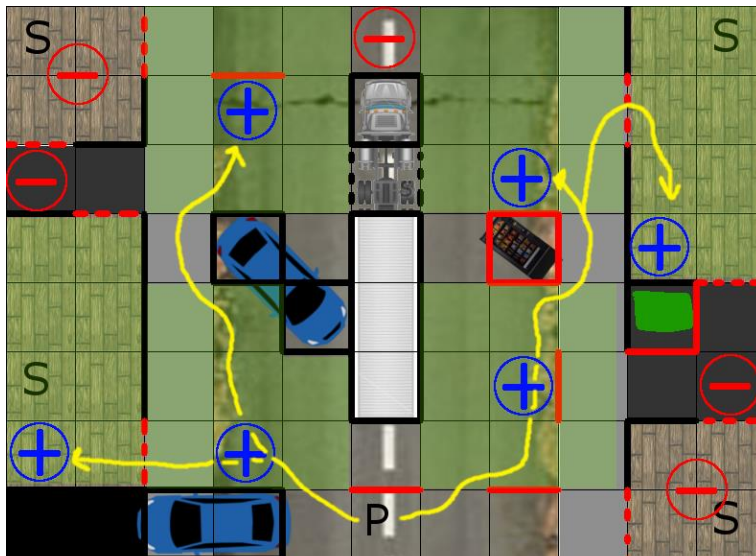
Excitement	Tension
Larger Buildings	Sniper Alleys
Hard Cover	Alleyways
Soft Cover	Small Buildings
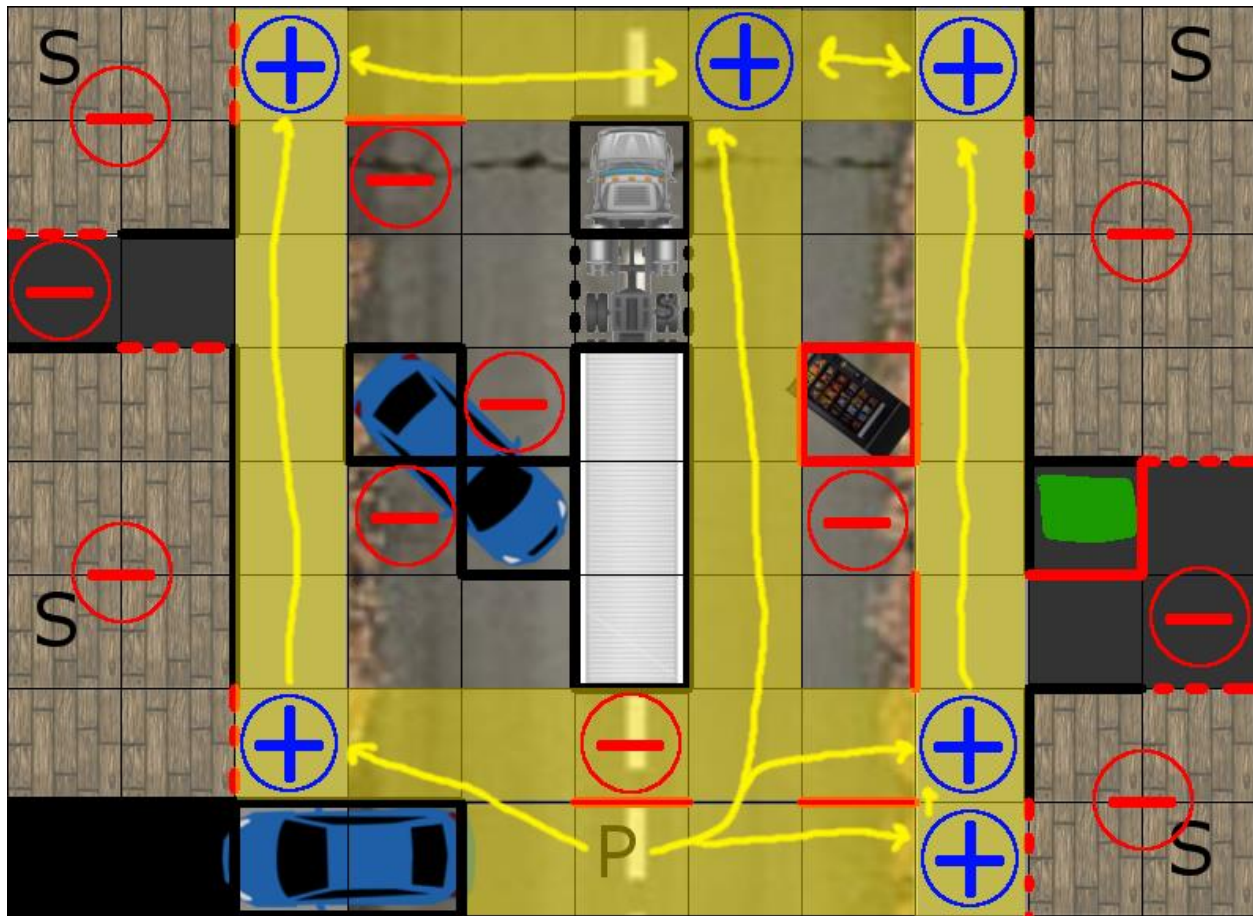
Long-Range User Type

The long-range user loves being able to hit units from a good distance away. Because of this they enjoy areas where they can see a long distance, so they can engage with enemies before they can engage with them. The attack speed of long-range user tends to lead them away from areas in close quarters that would put them at a disadvantage against faster attacking opponents.

The Ranged player can't hang out in the corners for as long as they'd want either due to the spawn locations of the enemies. This forces them to be a little bit mobile switching from vantage point to vantage point.

Excitement	Tension
Low cover areas	Buildings
Straight LOS zones	Alleyways
Effective distance from spawns.	Small Buildings
	Limited ammo

Ranged Combat Rules:

In this game the player starts with three weapons. A bow, a spear, and a sword. The player must spend a turn not attacking to change between weapons.

LONG RANGE: The player starts at the P and then zombies, the schmobags, spawn in from the S locations. The player's bow has a range of a die roll of 1d8 and must roll that die and count spaces to their target. They then subtract the evasion score of their target from their roll. If they get lower than the number of spaces, they miss. This puts a max range for the player's ranged attacks at the upper limit of the die. There is also limited ammo which limits how long the player can try to stay at range. The bow does decent damage, but is limited. Line of Sight is required for ranged attacks and include any space up, down, left or right from the player until view is stopped by hard cover or another enemy. A player who is using a long-ranged weapon has -1 evasion

MEDIUM RANGE: Medium range is any space within two spaces of the attacker that isn't blocked by hard cover. This gives the player more reach than the melee range fighter by a space. They still lack in range very much in comparison to ranged attacks. Medium also has the advantage of being able to attack diagonally. The spear has a chance per attack to lose durability. When it's durability hit's 0 it breaks. The staff does Moderate damage. A player who is using a medium range weapon has +0 evasion.

MELEE RANGE: Melee range attacks have a range of only the spaces next to the player. I've created some areas where they are safe from most ranged attacks but in order to deal with ranged attackers they must move from cover to cover to get to them. This allows them to close on the ranged characters to deal damage. Having only one less range than medium ranged types makes closing range more difficult. The sword deals more damage than the other two weapons. A player who is using a melee weapon has +1 evasion

Hard Cover Rules

Hard cover prevents all movement and Line of sight to and from enemies. Units behind it can't be seen or targeted by attacks

Soft Cover Rules

Soft cover has tokens that are placed on the board in the map locations. Soft cover prevents all movement but doesn't stop line of sight. When a player is attacked and there is soft cover between them and the enemy, the defender gets bonus armor for that attack. Any amount of damage that was

prevented by that armor instead goes to that soft cover token. When a soft cover token has taken 4 or more damage, the token is removed and no longer provides the armor bonus.

Doors

Doors are a type of soft cover that prevent line of sight for attacks unless you are in one of the spaces that touches that door.

Attack

When units attack they first check to see if they are within range of the target and that their target isn't blocked by hard cover. If the enemy is seen, the attacker then rolls their dice for damage. If the attacker is using a long-ranged weapon, they must first roll their 1d8 for accuracy to see if they hit. If the defender is behind soft cover in relation to the attacker a 1d4 is rolled as defense. Damage is then calculated as damage – d4 – player armor = damage taken. Damage is negated by soft cover before player armor and whenever soft cover prevents damage it takes that much damage to itself.

Dodge

There are two ways players can dodge in this current system. Players can move behind hard cover to prevent being seen from long-range and even possibly medium-range attacks. This is something a player can do pre-emptively and is good for when players are trying to close distance without taking shots. The other way a player can dodge is using their evasion stats when defending from ranged attacks. This number comparison of the attacks accuracy and the defender's evasion determines whether the attack hits or is dodged. Even though an arrow can travel much faster than a person can react, the number comparison is a result of the attacker's aim to the defenders movement or erraticism.
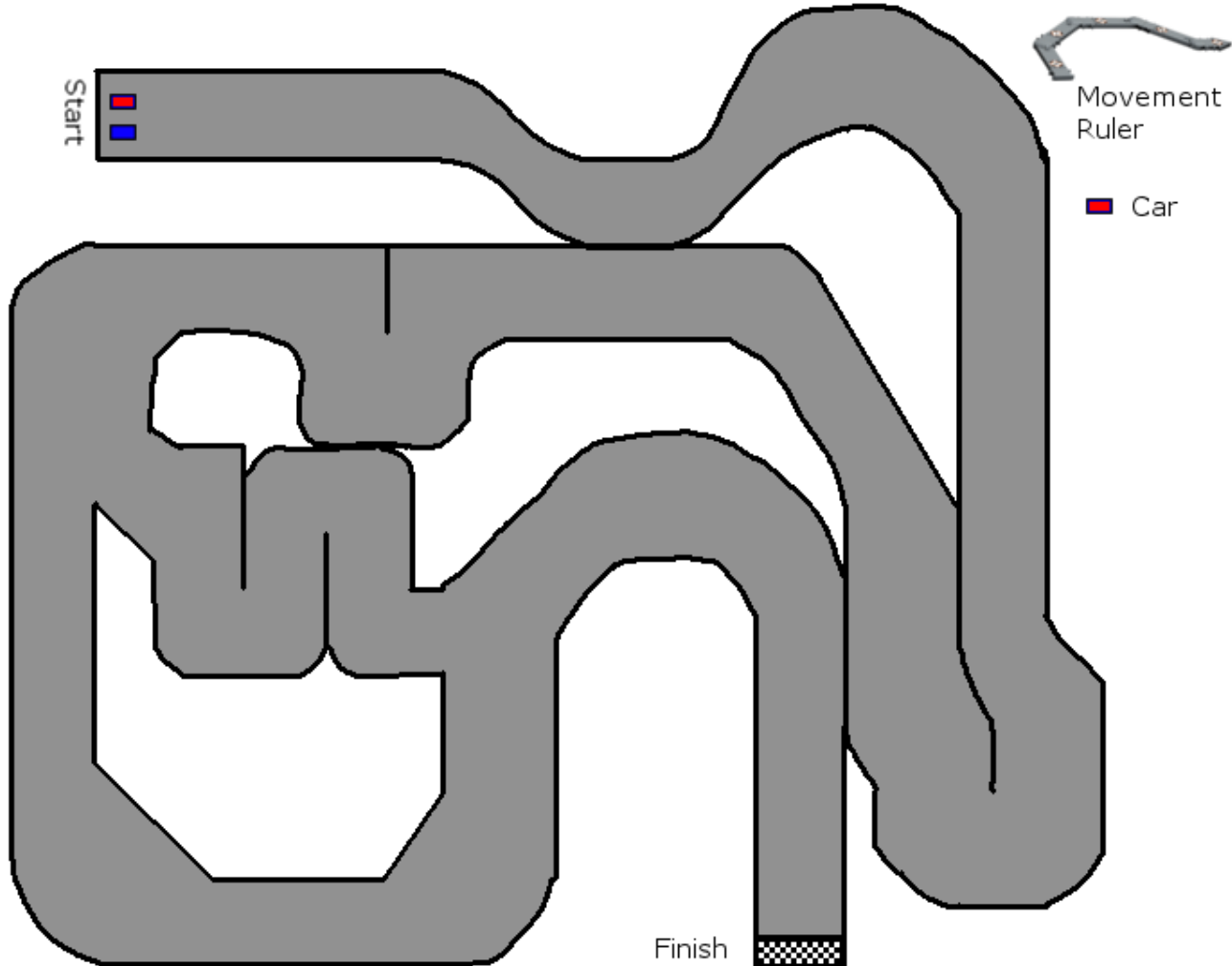
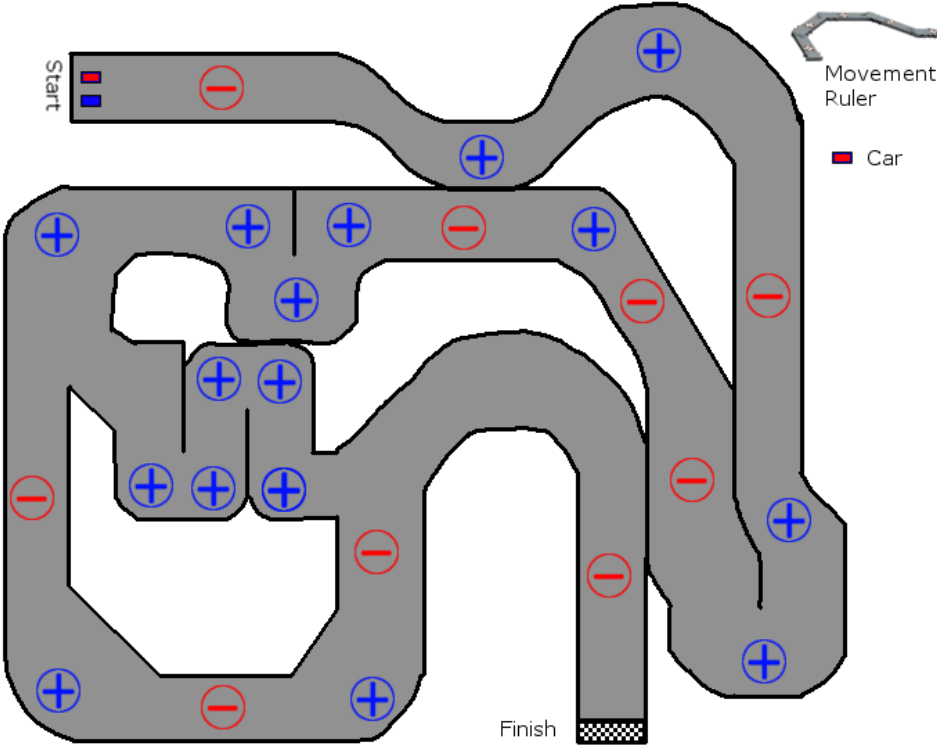# GAT211: Game Mechanics

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RACING MAP

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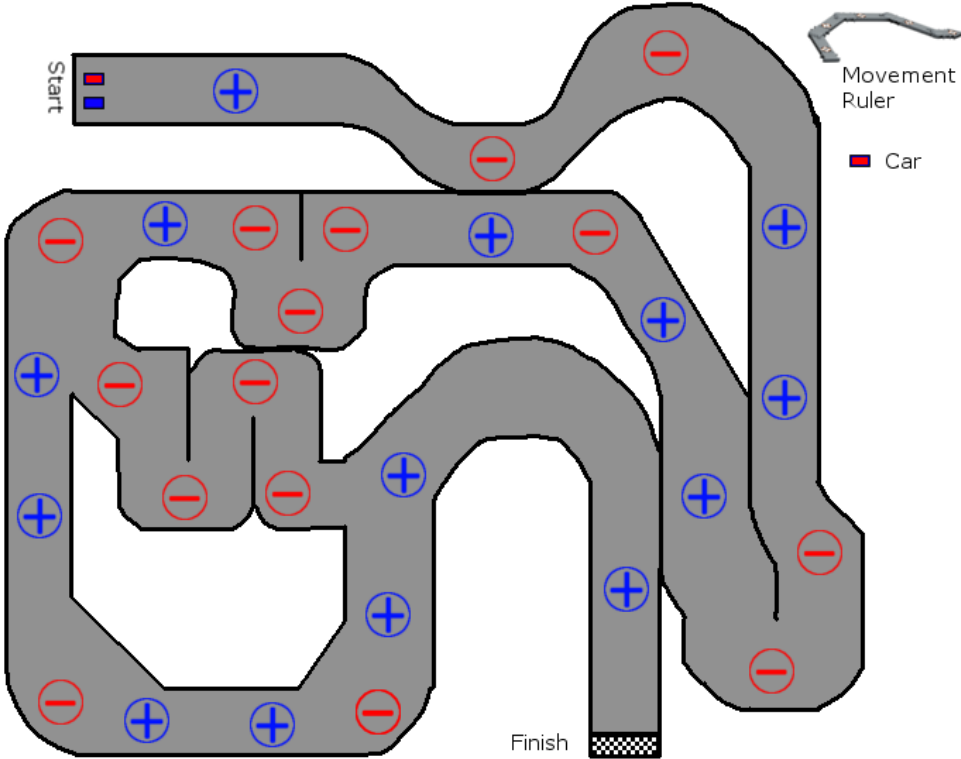Start

Movement
Ruler

Car

Finish
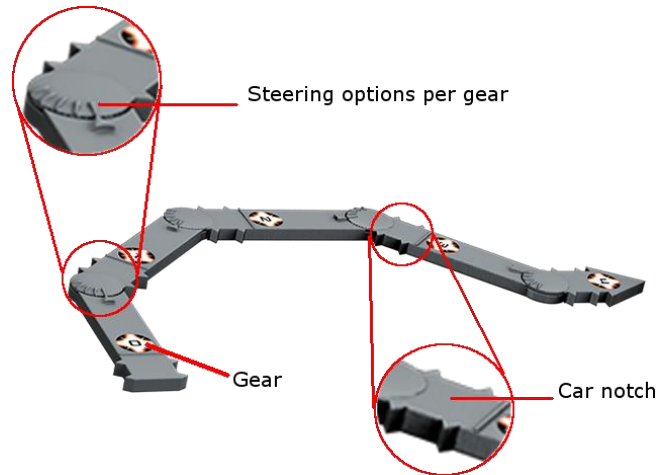
Maneuverable Car

Top Speed Car

Rules for Movement

Players have the choice of one of two cars. The top speed car, or the maneuverable car. The top speed car has a higher maximum speed, or distance travelled per turn. The maneuverable car has tighter and more responsive handling that allows it to take corners at higher speeds.

Acceleration

Both cars have their own respective movement ruler, like the one shown on the right. The gear length for each car is different. The maneuverable car has a longer gear 1, but a shorter gear 3 and 4. The top speed car has a shorter gear 1, but longer gear 3 and 4.

Overall, the top speed car has a longer ruler and has a higher maximum movement per turn. The maneuverable car has more early acceleration, but doesn't excel much in the higher gears, making up for it with its better steering abilities.

Turning

Turning or steering is determined by what gear you are in. Each joint has 5 notches. The center notch can be used in any gear. The other notches are based on what gear you are in. For instance, the maneuverable car can use the outermost notch in the gear just below their current gear. The top speed car however can only use the outermost notch of the same gear they are in. This allows the maneuverable car to take tighter turns at higher speeds. The table here shows when each notch can be used per car based on the gear they are in.

Maneuverable Car: Gear = Current Gear

Notch	Gear - 3	Gear - 2	Gear - 1	Gear
Center	Yes	Yes	Yes	Yes
Halfway	No	Yes	Yes	Yes
Outer	No	No	Yes	Yes

Top Speed Car: Gear = Current Gear

Notch	Gear - 3	Gear - 2	Gear - 1	Gear
Center	Yes	Yes	Yes	Yes
Halfway	No	No	Yes	Yes
Outer	No	No	No	Yes

Stopping

There are two ways to slow down or stop in this game. The first way is to downshift to bring yourself to a slower speed so that you may better be able to navigate corners. The second is when you hit a wall or another player.

When you hit a wall or another player you take damage and come to a complete stop. From there you are reset to your 1st gear. For every two damage you take, you lose your top most gear. If you lose all your gears, your car is totaled, and you lose the race.

Excitement and Tension Placement

The race track is designed to be both equal parts straightaways and turns of varying levels. Straightaways last different distances and corners have different intensities. Long straights are intended to be exciting for the top speed car while tight corners are exciting the maneuverable car with the opposites being tension for each.

Included are also some slight corners that are intended to be both slight excitement and tension for both cars. These corners aren't sharp enough to really give the maneuverable car an advantage but may still do so based on their driving. The same goes for the top speed car as the corner isn't quite sharp enough to require a significant slowdown to maneuver around, but still leaves room for mistakes.

Included in the track is also a divergent path for both cars. The maneuverable car can attempt to take a short and winding road or best the top speed car in some straights and less intimidating corners. The speed car can also try to take the winding road but is better suited to take the longer route that allows the car to stay in its higher gears. Each of these paths is excitement for one car, and tension for the other. In most cases each car will take a different path and meet back up at the other end of the track for a final neutral curve and short straight away.

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REGION MAP

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Key

Water

Forest/Rainforest

Mountains

Desert

River

Fettons

Nokai

The Order

Topography Map
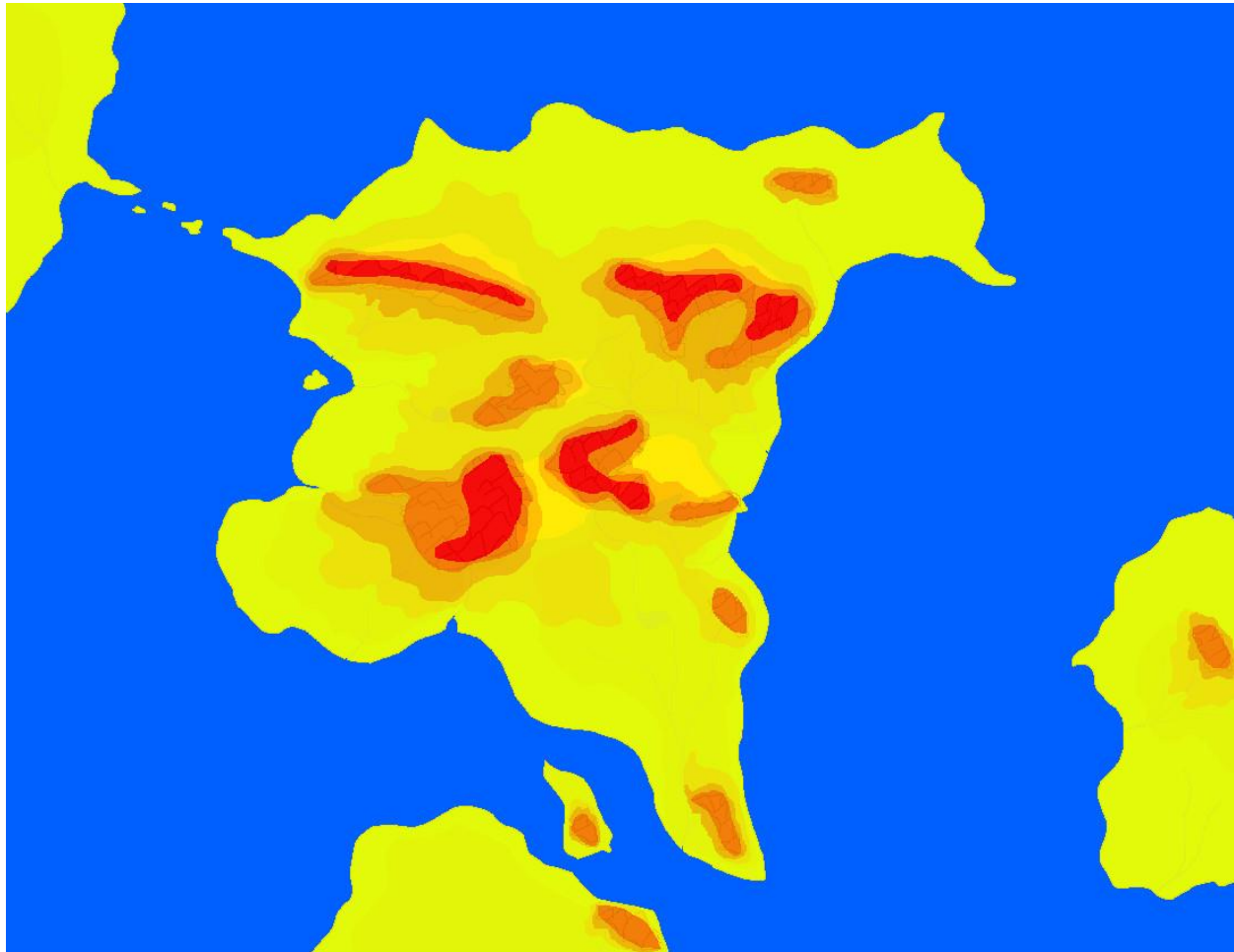
Key

- Water
- Forest/Rainforest
- Mountains
- Desert
- River
- Fettons
- Nokai
- The Order

Key

- Water
- Forest/Rainforest
- Mountains
- Desert
- River
- Fettons
- Nokai
- The Order

Key

Water	Feonite	Fettons	
Forest/Rainforest	Wood	Nokai	
Mountains	Natural Fruits	The Order	
Desert	Natural Crops		
River			

Logic for Population Centers

All population centers have access to fresh water and food. The Order is a culture built around industry and craftsmanship. They are heavy in reworking the feonite into power sources to power their machines and vehicles. They also do a lot of metal working and can use the other metals supplied by the mountains as well. If the Order isn't situated next to a mountain, they are down river from one of their settlements that is. This makes trade and transportation of these materials easier.

The Order gets most of their food from farms that they set up, from animals they hunt, or livestock they raise. This allows them to be more efficient in supporting large populations and workforces.

The Nokai are a tribal people and commune with nature. Rather than forcing their will upon the land the live alongside it leaving as small of a footprint as possible. They prefer living within the dense forests but still stick to the rivers. They don't farm but rely on the fruits they find naturally and the animals they hunt within the forest. If population begins to strain the resources of the area, the Nokai will have portions of the tribe migrate to find more fertile hunting grounds.

The Fettons are isolated on their island and have a very communal culture because of it. Because the island they are on isn't that large and resources are not so abundant the Fettons have been forced to rely on farming to maintain enough food to support their settlements. This requires them to stay close to the rivers and even venture to the ocean to start fishing it for food as well.

Resources

Some portions of the region are quite dense in different types of resources. The forests are obviously very abundant in wood which is used in creating buildings, equipment, weapons, and more. This is however also culture dependent. Some of these forests are rainforests and have a high fruit density, and with that fruit density comes other herbivore and carnivore wildlife. This increases hunting options for the people living there.

Feonite is a resource used by all factions when found, but the Order is the only faction that actively mines it and seeks it out. Feonite has a chance of showing up in many locations like many metals, and just like these metals, is usually more dense and easier to access in mountains. This process is quite destructive to the immediate vicinity which is another reason the Nokai and the Fettons generally don't mine.

There are plenty of flatlands with flowing rivers that have some natural crop foods such as wheat and corn that make great farmland. This soil and flat land is itself a resource as farming along mountain sides is completely doable, not all crops are designed for it.

Culture

There are some very distinct cultures in this region. The Order is a very industrialist culture that prize themselves in innovation and creation. They create marvels of industry with feonite powered machines. They are also quite expansive. Most other cultures they run into are conquered by them and slowly converted. If they can't convert the populace they conquer, they enslave them or extradite them.

The Nokai are quite the opposite. They care nothing of conquest and only to live their part as nature wills it. They only kill or pluck what is needed to eat, in an attempt to have little to no impact on the ecosystem. The Nokai are a tribal people, and each settlement is different. Sometimes an overlap of hunting grounds can cause strife between tribes that is usually settle with duels between champions from each tribe.

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CITY MAP

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Professor Radakovich

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Key

| Farmland |
| Low Class |
| Middle Class |
| High Class |
| Roads |
| Wall |

Centers

| Market |
| Military |
| Religious |
| Transportation |

Density

□	1
○	2
△	3
⬠	4

Key

Transportation and Trade	Upper Middle Class Residential
Market District	Military District
Lower Class District	High Class Residential
Farm District	Middle Class Residential

Phase 1

Farms built along the river. Ocean fishing along the coast. Market set up between the two of them for trading between the two.

Key

Farmland	Centers	Density
Farmland	Market	□ 1
Low Class	Military	○ 2
Middle Class	Religious	△ 3
High Class	Transportation	⬠ 4
Roads		
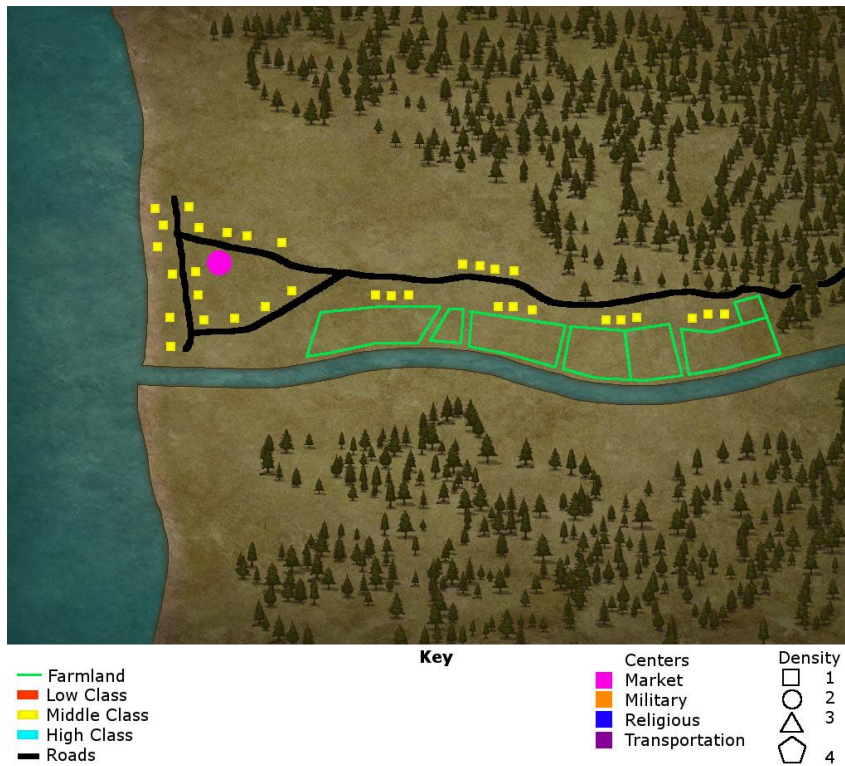
Phase 2

The market expands, and classes start emerging. Market owners start having a higher life style. Trading docks open for trade with other cities. Farms are displaced but more of them are made across the river.

Key

Farmland	Centers	Density
Farmland	Market	□ 1
Low Class	Military	○ 2
Middle Class	Religious	△ 3
High Class	Transportation	⬠ 4
Roads		
Wall		

Key

— Farmland	
■ Low Class	
■ Middle Class	
■ High Class	
— Roads	
— Wall	

Centers
- ■ Market
- ■ Military
- ■ Religious
- ■ Transportation

Density
- □ 1
- ○ 2
- △ 3
- ⬠ 4
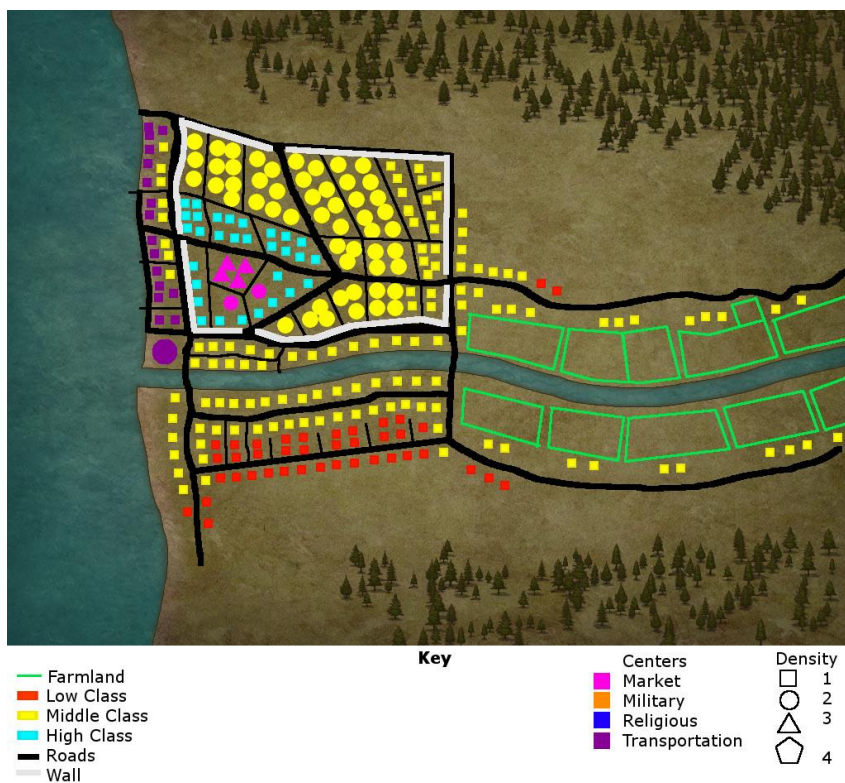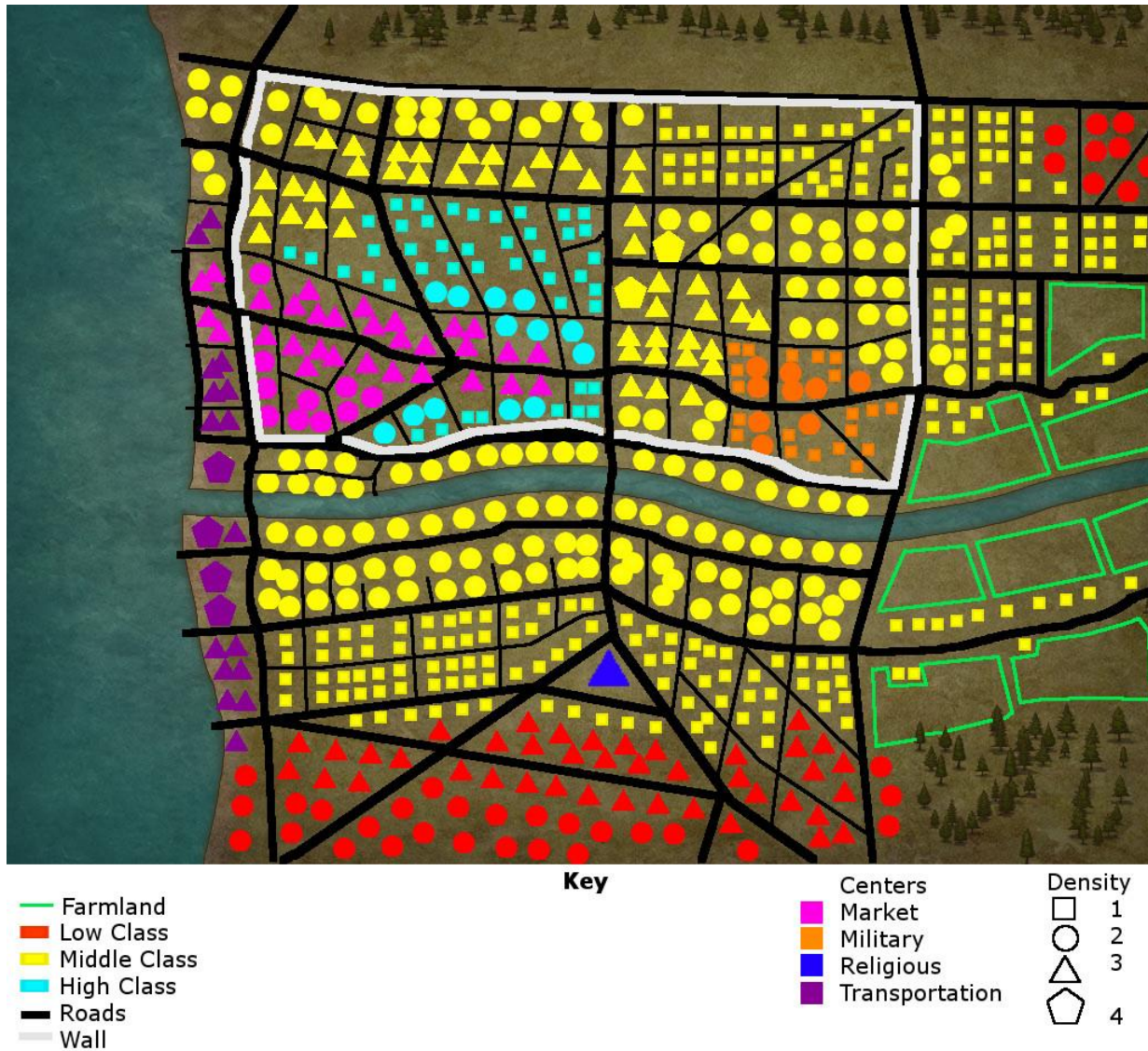
Phase 3

Trading is booming. The wall is expanded to protect more citizens and a military is put in place. The markets expand and upper class moves slightly away from the dirtiness and smell of the trading docks. More social disparity shows up as poorly paid dock hands and farm hands struggle to live comfortably. A lot of the lower middle class and lower class turn to religion. Farms are again displaced and move further up river to help feed the city.

The city itself was placed along the river's edge before it meets the ocean. This means they can't place the farms too close to the ocean because of the salt water and would have to keep them further up the river where the water is still fresh.

Resources

Food and Water

The people of this port city have ready access to fresh water from the river. Water is captured up the river from just before the farms for use in consumption as well as for use in the fields to water the crops. The residents get food from these farms including wheat, potatoes, and corn. Most of this food goes toward the citizens of the city but some of it is traded to other cultures across the sea. Most of the farmers live on their land and if they can't work the fields themselves, they will hire hands that also live on the land. Most of the farmers live further up the river as the city expanding has been taking up space and the land further up the river is richer and less contaminated by the salt in the air.

Safety

The inner city itself is surrounded by a tall wall that protects all the upper, upper mid, and military class citizens as well as all main merchant stores and their goods. The military helps keep the capitol safe and act as the police of the capitol dealing with crime and executing felons. These military men and women primarily protect the inner city, but also keep the peace at the docks and other locations when needed. Each entrance and exit into the city has a gate that can be closed in times of attack. Under law of the city, any food goods sold by the merchants in the store houses become property of the inner city to ration to the people in the event of a siege.

Construction

The initial location of the city is very close to a forest and has access to many trees for building new homes and the wall. The cities access to the ocean allows it to trade with other nations food and other crafted items and then sell them at a higher price to the other cities up the river.

Cultural Expression

The city itself is a trade city. Many people have various crafting skills such as wood working, and smithing. After the city expanded to the south farms raising sheep and growing fiber base plants like hemp to expand upon their crafts. Because the city has expanded to becoming a large port, many craftsmen come to the city to try to export their wares over the sea. Some business owners even travel and try to expand their influence across the sea. There are so many craftsmen within the capitol that they must get some of their resources from other cities upstream or from trade with other cultures. The city is also the only port on the west coast owned by The Order. This makes it the primary location that travelers must go to travel across the sea.
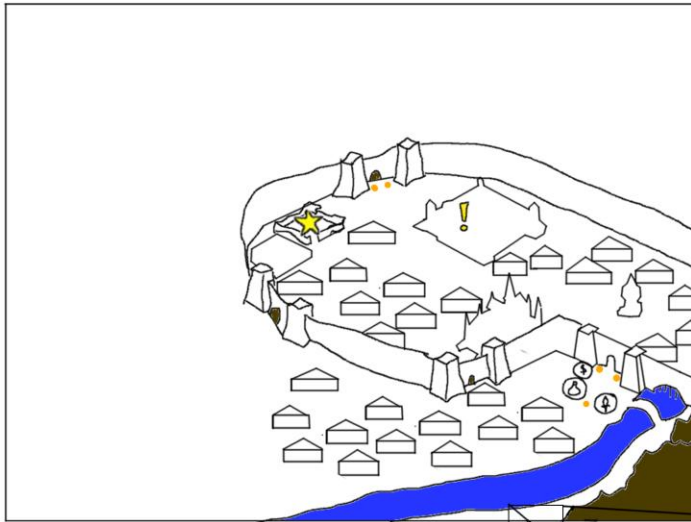
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PROJECT 3

ENCOUNTER MAP

Tyler Zwiers

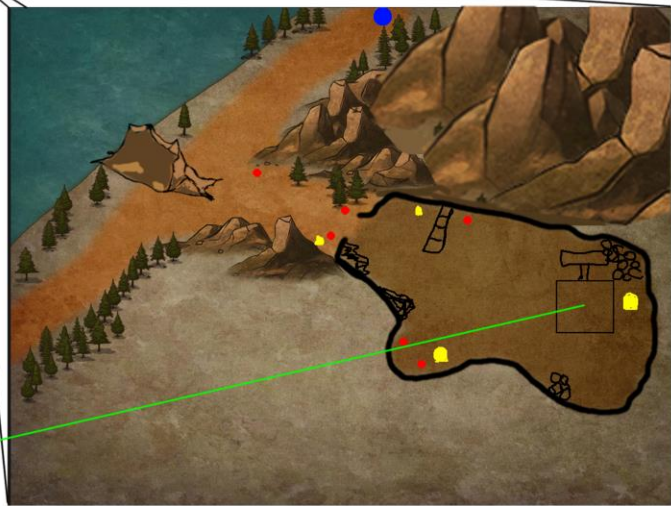Professor Radakovich

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Quest 1a Intro/Reveal

⭐ Player Start

❗ Quest Pickup

🪨 Closed City Gate

🟠 City Guards

💲 Shops

🔵 River

⛪ Chapel (Draws attention)

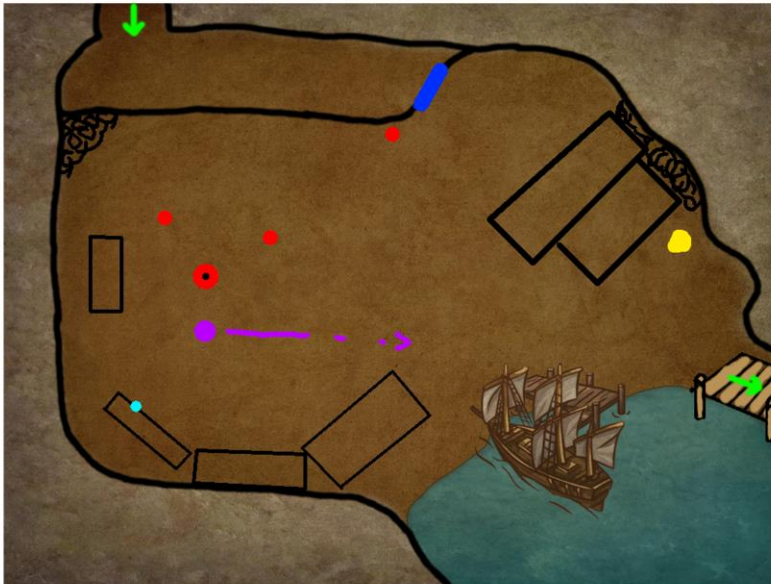🏯 Magus Tower (Draws attention)

Quest 1b Break/Ride

Player Entry 🔵

Bandit 🔴

Item Chest 🟨

Elevator ☐

Fallen Rocks/Blocking 🪨

Supply Crates/Blocking ▢▢

Level Transition Line ──

Quest 1c Turn/Fall

🔴 Bandit

🟨 Item Chest

🟢 Healing Item

Pile of feonite

🟣 Shade Scout

🪨 Fallen Rocks/Blocking

▦ Supply Crates/Blocking

☒ Broken Elevator/Start

Quest 1d Plan/Climax

Ladder	
Bandit	
Bandit Leader	
Shade Scout	
Shade Weaponry	
Item Chest	
Player Entrance/Exit	

Quest 1e Resolution
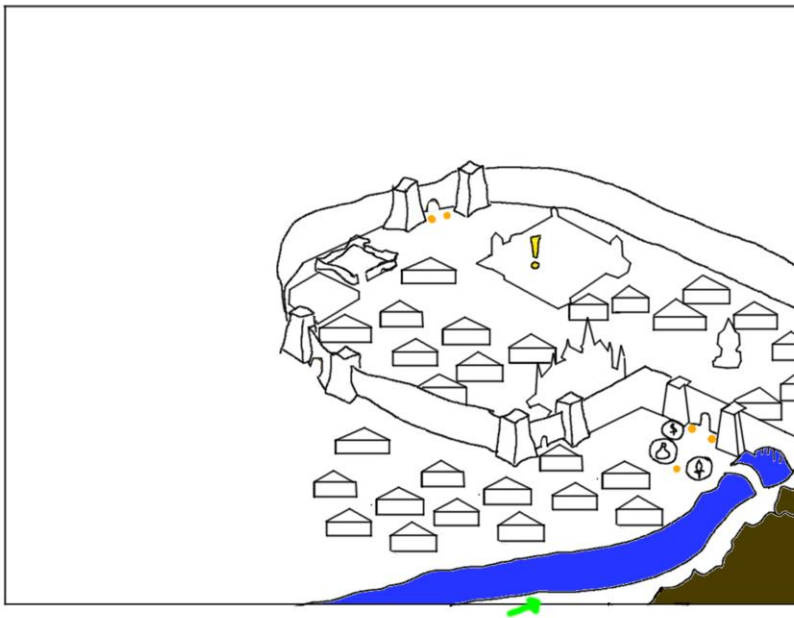
Quest return/finish location

Player Entrance

City Guards

Shops

River

Chapel/Remembered P.O.I.

Magus Tower/Remembered P.O.I.

Quest 1b Break/Ride (Abandoned Mine

Excitement	Tension
Finding the bandits	Water, can't swim
Finding item chests	Uninteresting path
Finding Elevator	Fighting Bandits
	Mountains, too steep to climb

Quest 1b Excitement Tension Placement

Excitement is placed along the path I wish the player to take. These cues include showing the player the bandits they are after and gives them a view of the entrance to their hideout. I also give out quite a few item chests, four to be exact. This is to increase excitement because this is the Break/Ride portion of this quest's story.

What little tension there is in this map is to help coral the player toward the elevator and to prevent them from having too much excitement that it overloads.
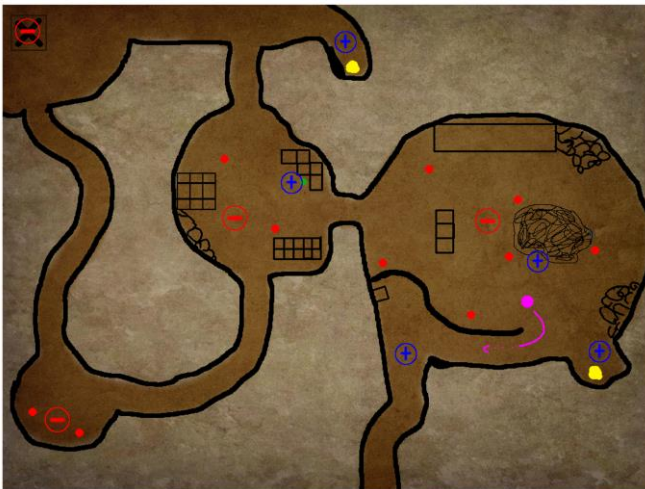
Quest 1c Turn/Fall (Lower Mine Caves)

Excitement	Tension
Finding Item Chest	Elevator has broken
HP Pickup	A lot of bandits to fight
Finding Feonite (quest)	Weapon broken
Find exit	Squad Leader hurt
	Already wounded

Quest 1c Excitement Tension Placement

Tension is placed in this map early on. This is to help sell the fall/turn point of the quest. Your weapon is destroyed, your squad leader is in no fighting shape and you can't leave the way you came in because the elevator has been destroyed. Worse yet, but you have to fight these bandits with only your backup melee weapon while protecting your squad leader.

Excitement is placed in the map to counterbalance and help the player with items for exploration, quest progress, and health pickups.

Design

This quest is designed to be the first quest of the game outside of the tutorial. This quest has the intention of kicking off the larger story by introducing the player to the main villain as well as setting up supporting characters. You are introduced to your squad leader which will be with you for a big portion of the game. You are also introduced to the Shade, the space faring faction here for the planet's resources.

This quest also gives the player a chance to play with both ranged combat and melee combat very early so that the player gets a good feel for both before they decide how they want to build their character. Learning about the importance of feonite within the world is another thing the quest helps express to the player so that they have a greater understanding when entering the larger world.

Pacing

The pacing of the level varies a little based off its narrative structure. First the player must pick up the quest and then just travel to find the bandits in a destination. This is fairly slow pacing as it allows the player to spend a little more time in the city to do look at some items in the shop or just look around the city despite the urgency the quest seems to imply.

Once the player finds the bandits the pacing goes much faster. The player enters combat defeats the bandits and then pacing may slow down if the player wishes to look around inside and open the chests. When the elevator breaks, and the player loses their rifle and their squad leader becomes injured, pacing slows down for a little while. The player must fight through the cave until they enter the large storage room. Here the pacing picks back up as the fight gets a little intense and the player gets their first glimpse of the Shade scout.

Pacing slows down yet again right before the climax when the player sits atop the cliff and sees the Shade scout talk with the bandit leader. There is nobody to fight on the upper level and the player gets to overhear some of the conversation. Things pick up again to their maximum level however when the player goes down the ladder and alerts the bandit leader of their presence. After the fight pacing drops down quite a bit as the player just returns to town to inform the lord of what had happened.

Narrative

Intro/Reveal 1a

This is the first quest the player has. The hero is a soldier in his home city doing some friendly competition with his squad leader with target practice within the training barracks. They stop to hear screaming and sirens blaring. Their commanding officer enters the shooting range and tells them the Lord

of the castle needs them. The hero and his squad leader meet the lord in his keep. He informs them that a bunch of bandits just pulled off an enormous heist and stolen a large quantity of the city's feonite from the store houses. Without it a lot of the city's powered systems will fail. The city guard is busy cleaning up the mess they left behind, and they can't risk leaving the city due to the possibility of another raid. You and your squad leader are sent out to find these bandits. Your commanding officer tells you they fled and went out the south-east entrance of the castle walls.

Break/Ride 1b

You and your squad leader head out of the city and across the bridge out of the city. You follow the path along the mountains to find a couple bandits hanging outside an old abandoned mine shaft and appear to be guarding the entrance. They attack on sight the hero defeats them and then enters the mine where he and his squad leader are met with more opposition. After defeating these bandits, it is clear they are guarding something, and you and your squad leader proceed down the elevator to see what.

Turn/Fall 1c

On their way down through the elevator, it comes loose and plummets to the floor. It crash lands and your firearms are lost or destroyed. The hero's squad leader is heavily injured but can walk. Bandits investigate the elevator and you must defend yourself and your squad leader using only your feonite charged blade. The hero makes his way through enemies, his squad leader right behind, and finds himself in a large storage room with lots of bandits and a shade scout who turns invisible and leaves the room. They defeat the bandits and follow

Plan/Climax 1d

The hero spots the shade scout talking with a bandit leader from high above and goes down to face them. They bandits are alerted and the Shade scout leaves yet again. The hero defeats the bandit leader and finds a single rack of advanced strange weaponry. His squad leader tells him to return to the lord with one of these weapons and to let him know what happened and that he will stay behind to guard it.

Resolution 1e

The hero returns to the lord to inform him of what happened. The lord thanks him and lets him keep the weapon brought to him as a reward and a replacement for the weapon lost. He tells the hero to ride west to get the weapon inspected by the feonite smithies in the port city to possibly identify the Shade scout seen in the mines.