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Sigma Source – Game Design Document

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## 1 Executive Summary

In the time when humanity has populated the edges of the galaxy, a tyrant leader of a thousand colonies holds the power to dominate the universe. The source of power that let humanity flourish throughout space has become the source of war. A cavalier pilot, in one of the most powerful mechs, must fight to end the war and bring peace to his homeland.

## 2 Genre

Sigma Source is a **Third Person Action Scrolling Rail Shooter** with mechs. Examples of this specific game genre are Cabal for the arcade or Nam-1975 for Neo Geo.

## 3 Platform

Sigma Source is designed for the PC and PSN (Playstation Network).

## 4 Market and Target Audience

Sigma Source targets the ages of 13 to 30. The game is designed for the hardcore market with a casual direction. The game can be played in short durations so that it fits well for a player that wants to pick up and play a game for less than an hour. This design mimics how arcade games are designed.

## 5 Game Modes

### 5.1 *Single player*

#### 5.1.1 **Campaign**

The game progresses through the levels linearly like most rail shooters. The level settings follow the major events in the storyline.

The levels consist of enemy mechs or monsters, minibosses, and a boss at the end. The player controls a mech and must dodge enemy fire and attack the enemy by firing with the crosshair on the enemy. Avoiding enemy fire is the most important aspect of the gameplay. The game is designed to be similar to the “bullet hell” rail shooter genre.

### 5.1.2 **Survival**

Survival mode will have endless amounts of enemies until the player dies. The player must kill as many enemies that are seen in the campaign mode and survive as long as possible. The enemy numbers will continue to increase and the game gets more difficult the longer the survival mode goes on.

### 5.1.3 **Boss Rush**

Bosses are the most fun part of each level and are well designed to be really challenging. Letting the player to fight bosses without having to progress through the level will let the players enjoy boss fights without dealing with the levels again. This will be a locked feature until the player beats the game once.

## 6 **Options and Customizations**

### 6.1 ***Difficulty***

The difficulty will be scaled from easy to hard, and there will be an unlockable “Master Mode” difficulty. The difficulty will scale enemies’ health, the rate of enemy fire, and the amount of attacks. Master Mode will be extremely difficult, so it is unlockable because letting the player play the game on the available difficulty modes will train the player. Difficulty will also scale the amount of points so that the more difficult modes would give a higher score.

### 6.2 ***Controls***

The player will be allowed to set the way he or she wants to use the controller. There will always be a default setting that is the most optimized from the developer’s perspective.

### 6.3 ***Audio***

There will be an option to scale the volume of sound effects and music.

### 6.4 ***Visuals***

There is going to be an option that shows where the enemy missile attacks will land so it can help the player tell where to avoid on the screen. It gives the option for the player to turn off the crosshair if they find it intrusive to their gameplay.

There is also an option to change the position of the HUD bar to top or bottom.

## **7**    **Priorities**

### **7.1**    ***Gameplay***

It is important to have a fun experience especially since it is an arcade game which offers a shorter experience.

### **7.2**    ***Replayability***

It is important to have the game to have a long lifetime. Highscore challenges will provide an incentive for the player to play the game again.

### **7.3**    ***Scalability***

Production schedule is important, so the game must be made with the ability to have a lot of content to be cut if there are time constraints. The important levels that drive the story must be made first before putting in the other levels that do provide more detail to the story, but is not essential.

### **7.4**    ***Story***

Story is necessary to make a game memorable. Giving a game a setting would make the player feel like he or she is playing in another world. It would give the game a more memorable feeling than if it was just an empty world with just gameplay.

### **7.5**    ***Audio***

The game will mainly comprise of enemies blowing up. The sound effects for explosions must be a satisfying experience in itself. Music will also be important to add mood to the level and style to the story.

## **8**    **Risks**

- Keeping scalability in mind might make the story content not work well together.
- Difficulty scaling might not be as easy as one think it is.
- Replayability through highscore challenges may not be enough incentive to play the game again.

## 9 Art Style and Direction

The art style will follow mech anime style like Gundam or Macross. The main focus is to make sure the style of the mechs look like humanoids as they do in Gundam or Macross. Ships and monsters do not need to reference those mech animes.

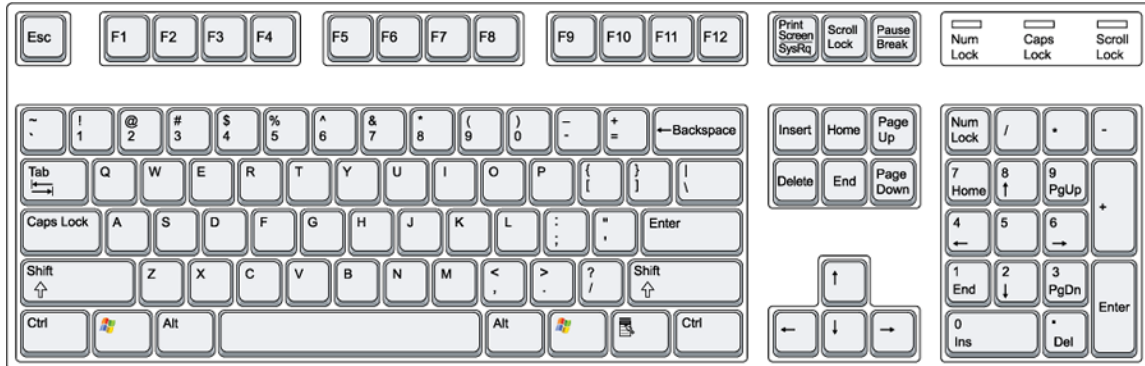


## 10 Audio Direction

The music will mainly use the electric guitar, orchestral strings, and the piano. The theme should feel like it is coming from the Gundam universe. A lot of the soundtracks portray a very good theme for the game. The tempo should fit the mood of the level according to the story.

## 11 Controls

### 11.1 *Keyboard Controls*



WASD or Arrow Keys – Movement

Mouse Movement – Aim Crosshair

Left Mouse Button – Shoot

Right Mouse Button – Shield

Spacebar – Boost

Shift – Melee

1 and 2 – Weapon Change

F – Bomb

Playstation Controls



- Left Analog Stick and D-Pad – Movement
- Right Analog Stick – Aim Crosshair
- L2 – Boost
- R2 – Shoot
- L1 – Shield
- R1 – Melee
- Square and Triangle – Weapon Change
- X and Circle – Bomb

## 12 Depth of Field

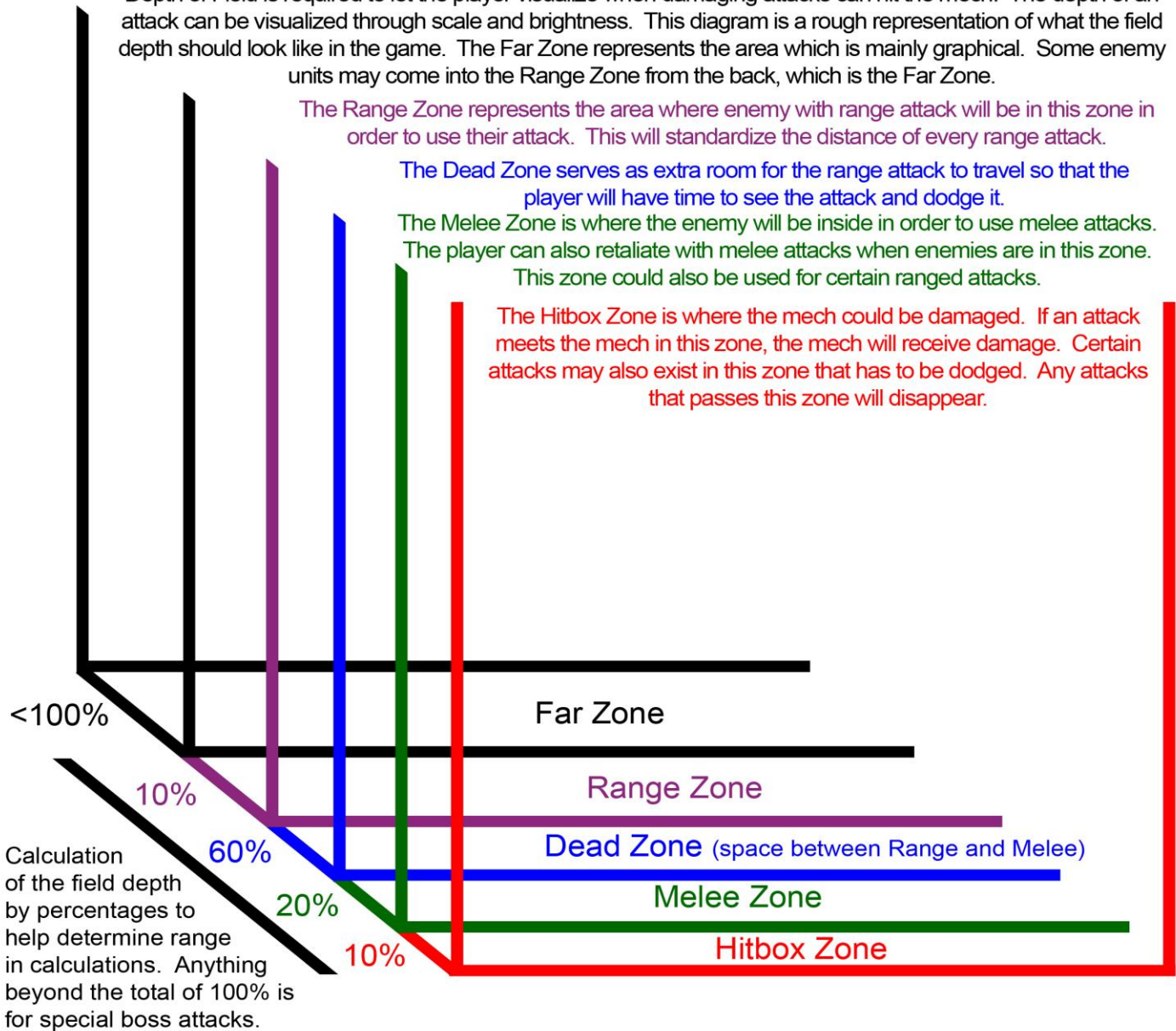
Depth of Field is required to let the player visualize when damaging attacks can hit the mech. The depth of an attack can be visualized through scale and brightness. This diagram is a rough representation of what the field depth should look like in the game. The Far Zone represents the area which is mainly graphical. Some enemy units may come into the Range Zone from the back, which is the Far Zone.

The Range Zone represents the area where enemy with range attack will be in this zone in order to use their attack. This will standardize the distance of every range attack.

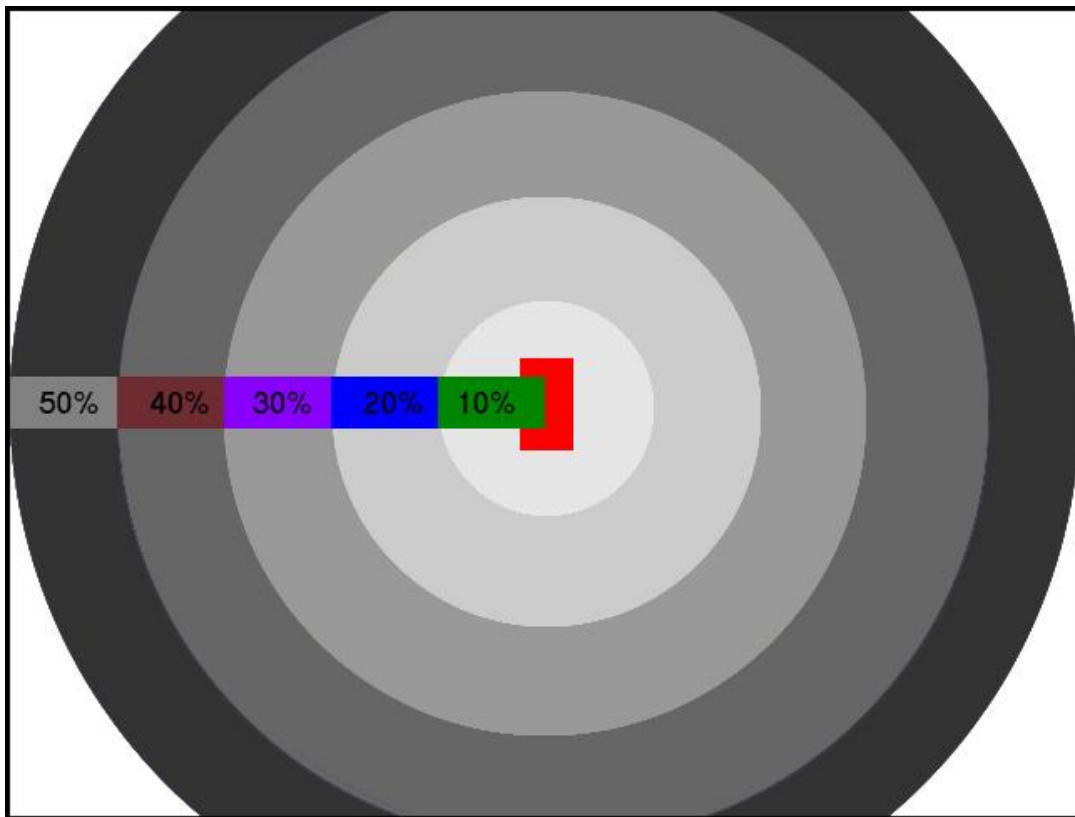
The Dead Zone serves as extra room for the range attack to travel so that the player will have time to see the attack and dodge it.

The Melee Zone is where the enemy will be inside in order to use melee attacks. The player can also retaliate with melee attacks when enemies are in this zone. This zone could also be used for certain ranged attacks.

The Hitbox Zone is where the mech could be damaged. If an attack meets the mech in this zone, the mech will receive damage. Certain attacks may also exist in this zone that has to be dodged. Any attacks that passes this zone will disappear.

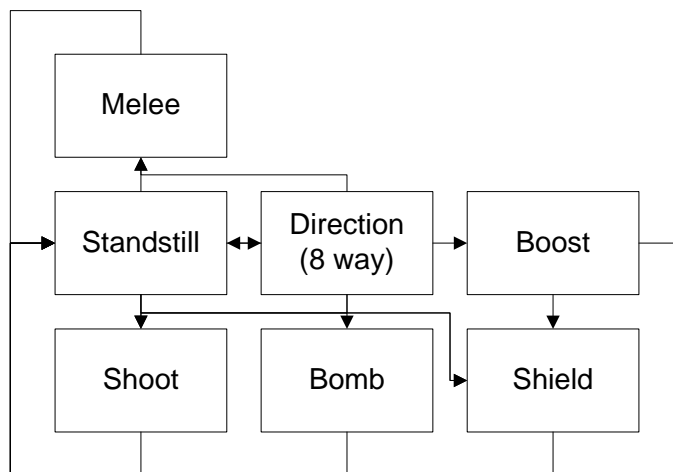


### 13 Speed and Distance



This picture is showing how distance is calculated for the metrics that uses distance and speed. The distance metrics will be using the percentage of the width of the screen as a way to calculate distance orthogonally.

### 14 Motion Tree



## 15 User Interface

### Screen Colour Index

Black – Background, Gameplay Area

Red – Artwork

Light Green – Labels, Displays

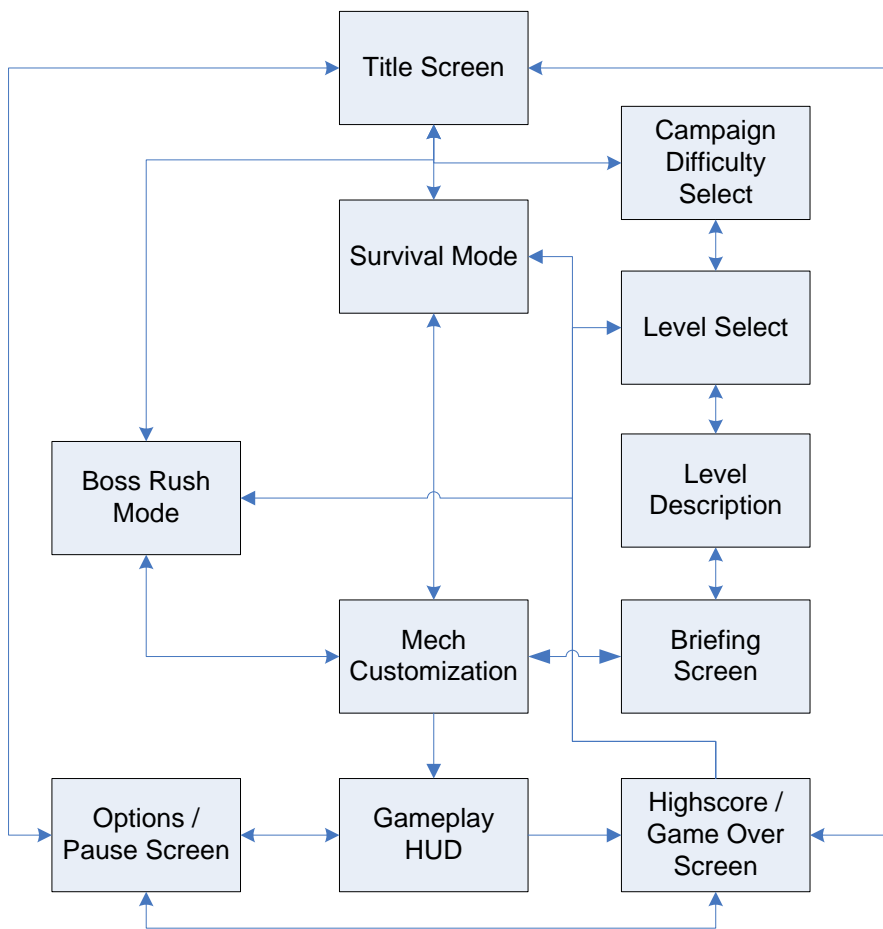
Light Blue – Selectable buttons

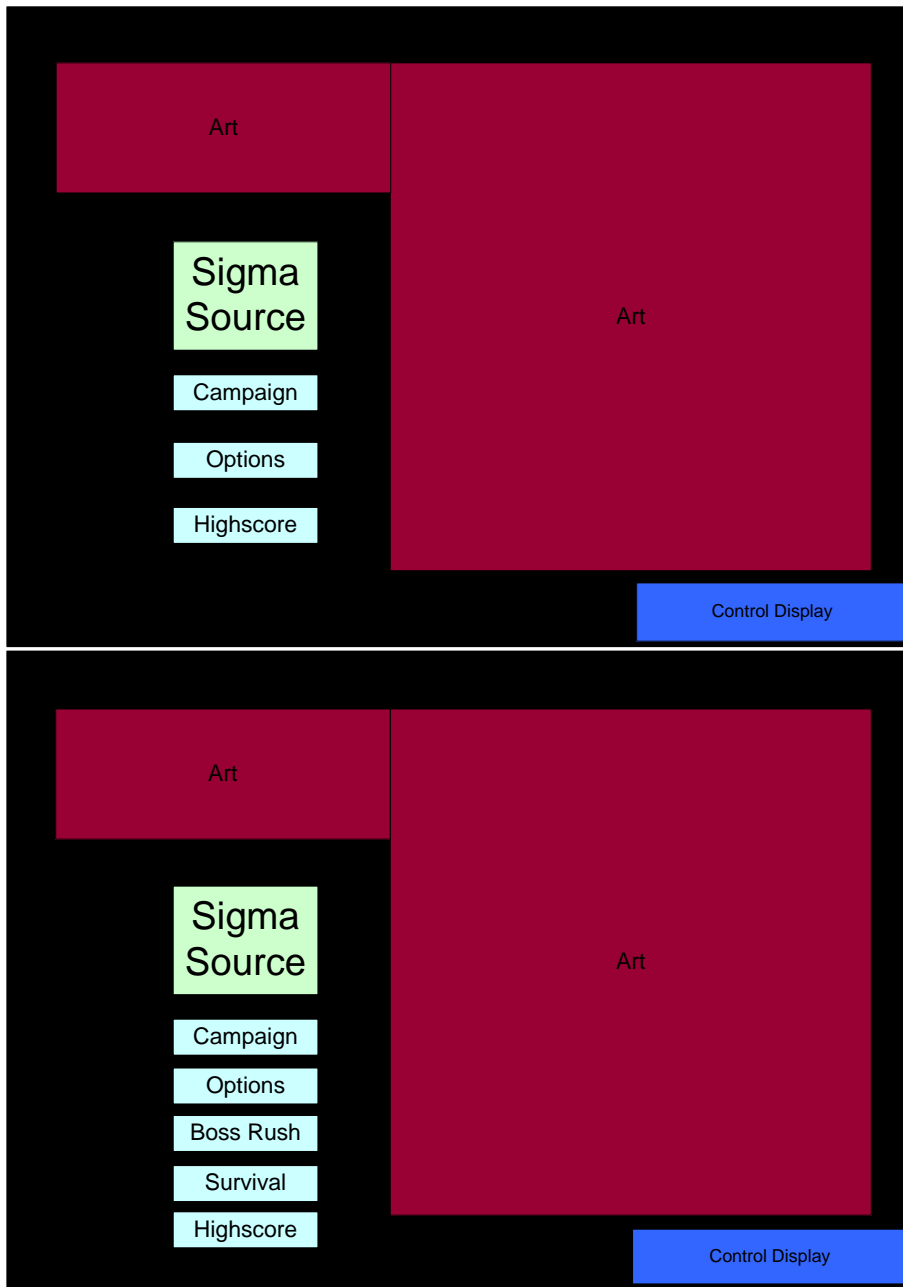
Blue – Instructions

Orange – Keyboard Input

Green – Special Popup Selection

### 15.1 *Screen Flowchart*



**15.2 Title Screen**

A title screen for the game which lets the player select where to go. The second screen is the unlocked screen when the player beats the game once.

Sigma Source – Game Title.

Campaign, Options, Boss Rush, Survival, Highscore – Buttons to other menus.

Art – An artwork of the Mech aiming its gun to the left over the title.

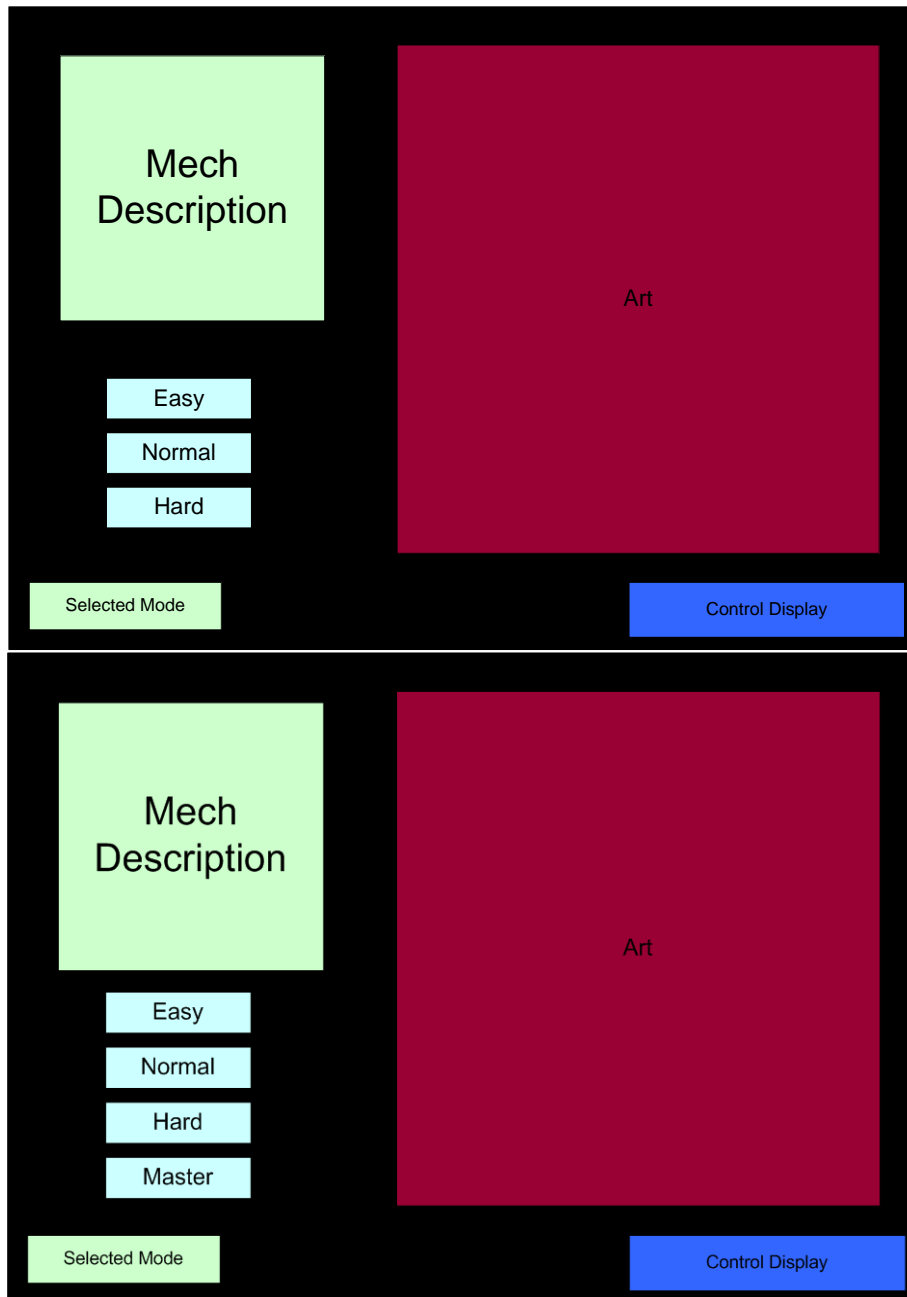
Return to Arcade – A selectable button that goes back to the Xbox 360 dashboard.

Control Display – Shows the controls for the screen.

Up and Down for D-Pad or Left Stick: Scrolling menu buttons.

X: Select Menu (OK).

### 15.3 Campaign Mode Screen



The campaign screen is the difficulty selection. The second screen is the unlocked screen when the player beats the game once.

Mech description – A description of the mech for highlighted difficulty.

Easy, Normal, Hard, Master – Buttons to select difficulty.

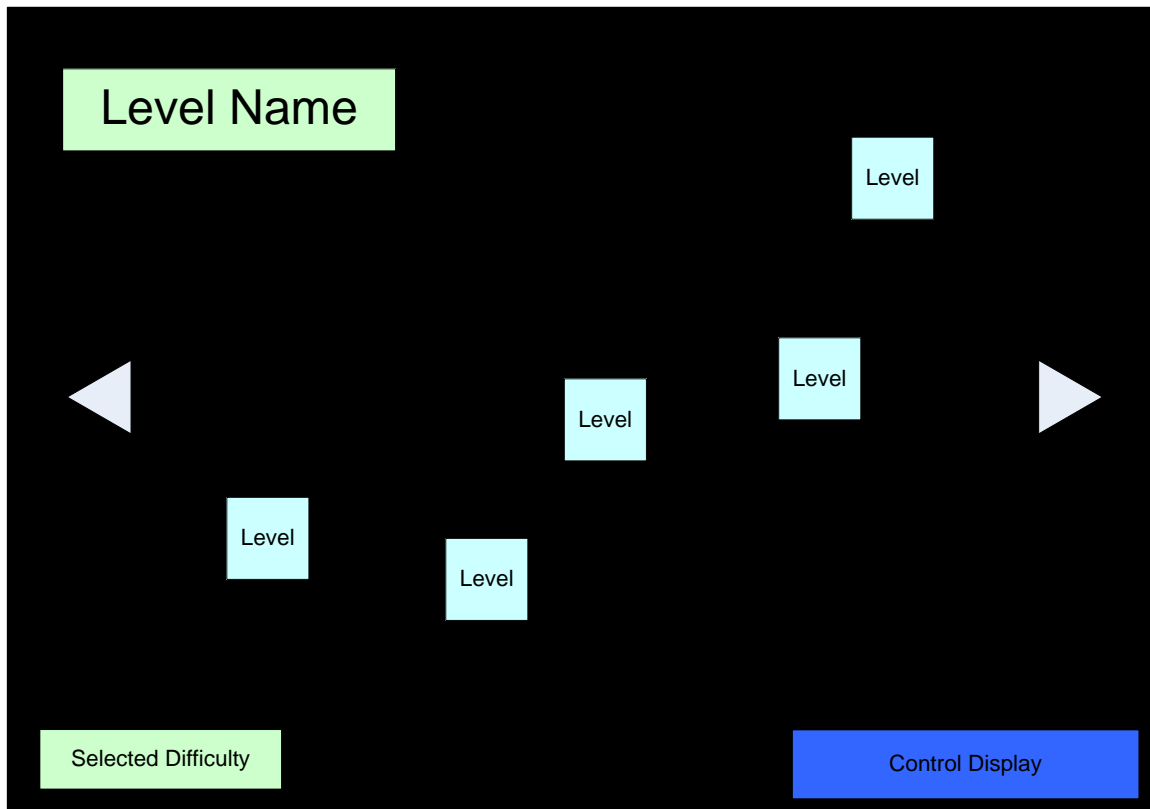
Art – An artwork of the mech.

Control Display – Shows the controls for the screen.

Up and Down for D-Pad or Left Stick: Scrolling menu buttons.

X: Select Difficulty (OK).      Circle: Go Back (Cancel).

Select: Toggle Omega Venerex for Easy, Normal, Hard difficulties (Change Mech).

**15.4 Level Selection / Map Screen**

The map screen to select the level is a space charter map of the areas where the Mech goes to battle.

Level Name – The name of the level highlighted.

Level – Selectable buttons that are 3D represented icons of the level that are highlighted with a white glow.

Selected Difficulty – Shows which difficulty has been selected from the previous menu.

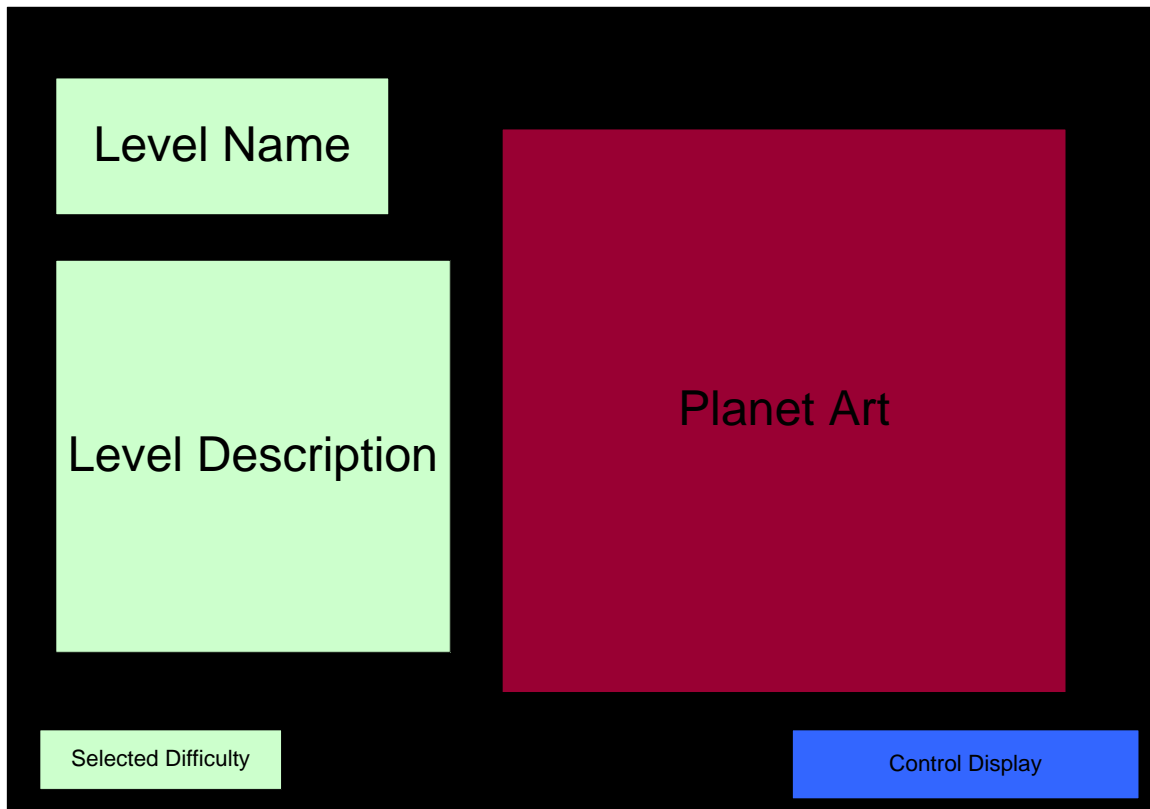
Control Display – Shows the controls for the screen.

White Arrows – These arrows indicate that there are more levels in that direction so that the player knows that it is possible could scroll in that direction, and an arrow will not appear if there are no levels in that direction.

Left and Right for D-Pad or Left Stick: Scrolling menu buttons.

X: Select Difficulty (OK).      Circle: Go Back (Cancel).

### 15.5 *Zoom In Level Description*



The level screen shows an in-depth description of the level describing the kind of battle that took place in the level. It serves as a more graphical confirmation of choosing the level.

Level Name – The name of the level selected.

Level Description – A description of the level and about the battle that takes place.

Planet Art – A 3D art of the planet with the animations indicating the battle.

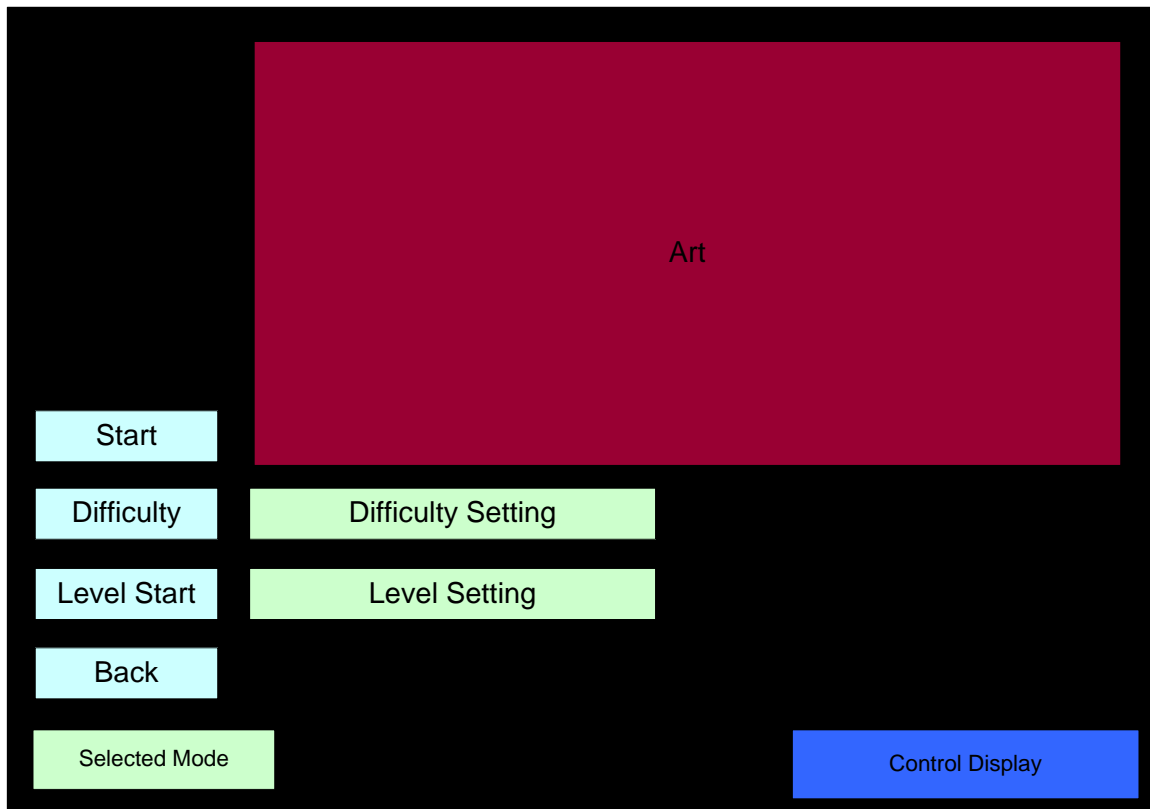
Selected Difficulty – Shows which difficulty has been selected from the previous menu.

Control Display – Shows the controls for the screen.

X: Select Difficulty (OK).

Circle: Go Back (Cancel).

## 15.6 Survival Mode Screen



The campaign screen is the difficulty selection. The second screen is the unlocked screen when the player beats the game once.

Mech Description – A description of the mech for highlighted difficulty.

Art – An artwork of the mech fighting a lot of enemies. Changes with the level setting to show that the level has different kinds of enemies.

Start – Begins the survival mode.

Difficulty – Selects the difficulty for the boss fight.

Difficulty Setting – The selected difficulty setting.

Level Start – Gives an option to choose the starting survival level.

Level Setting – Shows the level number that is set.

Back – Goes back to the previous menu.

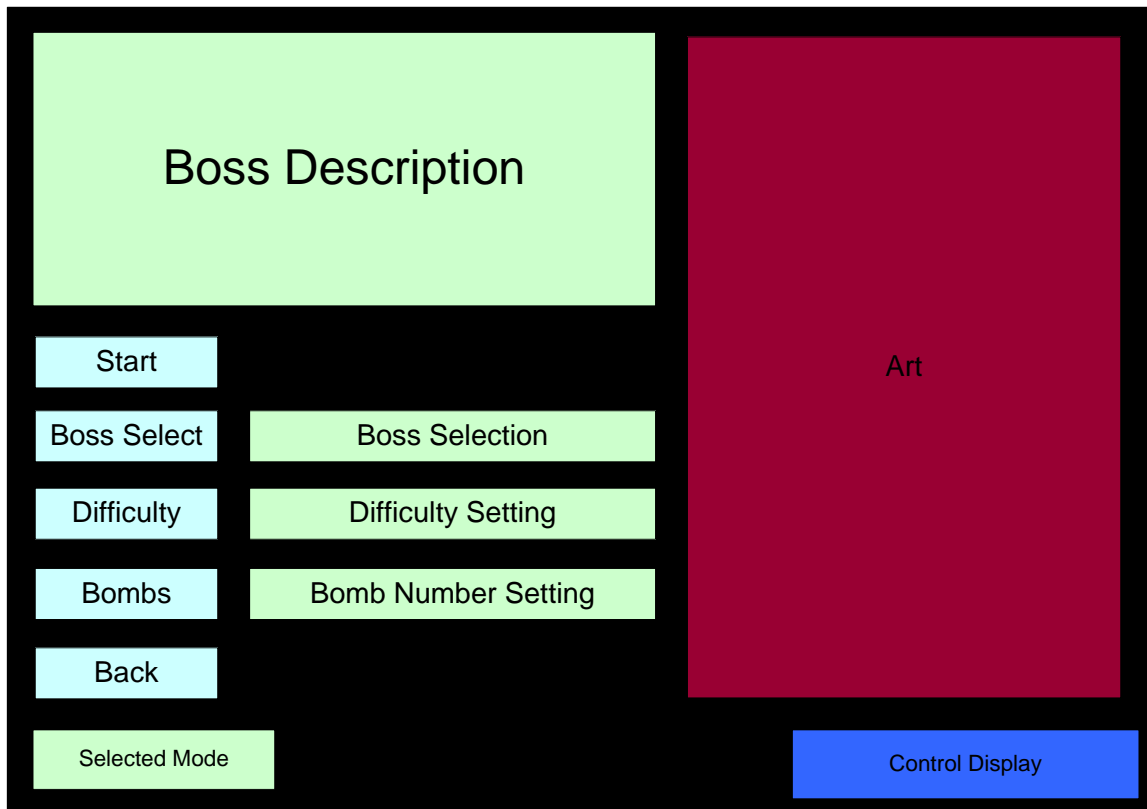
Selected Mode – Displays the mode selected in the previous menu (Survival Mode).

Control Display – Shows the controls for the screen.

Up and Down for D-Pad or Left Stick: Scrolling menu buttons.

Left and Right for D-Pad or Left Stick: Changes selection.

X: Select Difficulty (OK).      Circle: Go Back (Cancel).

**15.7 Boss Rush Mode Screen**

The boss rush mode is where the player chooses to fight certain or all bosses.

**Boss Description** – A description of the boss that has its name displayed in the boss selection.

**Art** – An artwork of the Mech battling the boss.

**Start** – Begins battle with the boss.

**Boss Select** – Gives an option to battle which boss to fight, or to fight all bosses.

**Boss Selection** – The name of the boss that is selected to fight.

**Difficulty** – Selects the difficulty for the boss fight.

**Difficulty Setting** – The selected difficulty setting.

**Bombs** – Selects the number of bombs player wants to use.

**Bomb Number Setting** – Shows the number of bombs set.

**Back** – Goes back to the previous menu.

**Selected Mode** – Displays the mode selected in the previous menu (Boss Rush Mode)

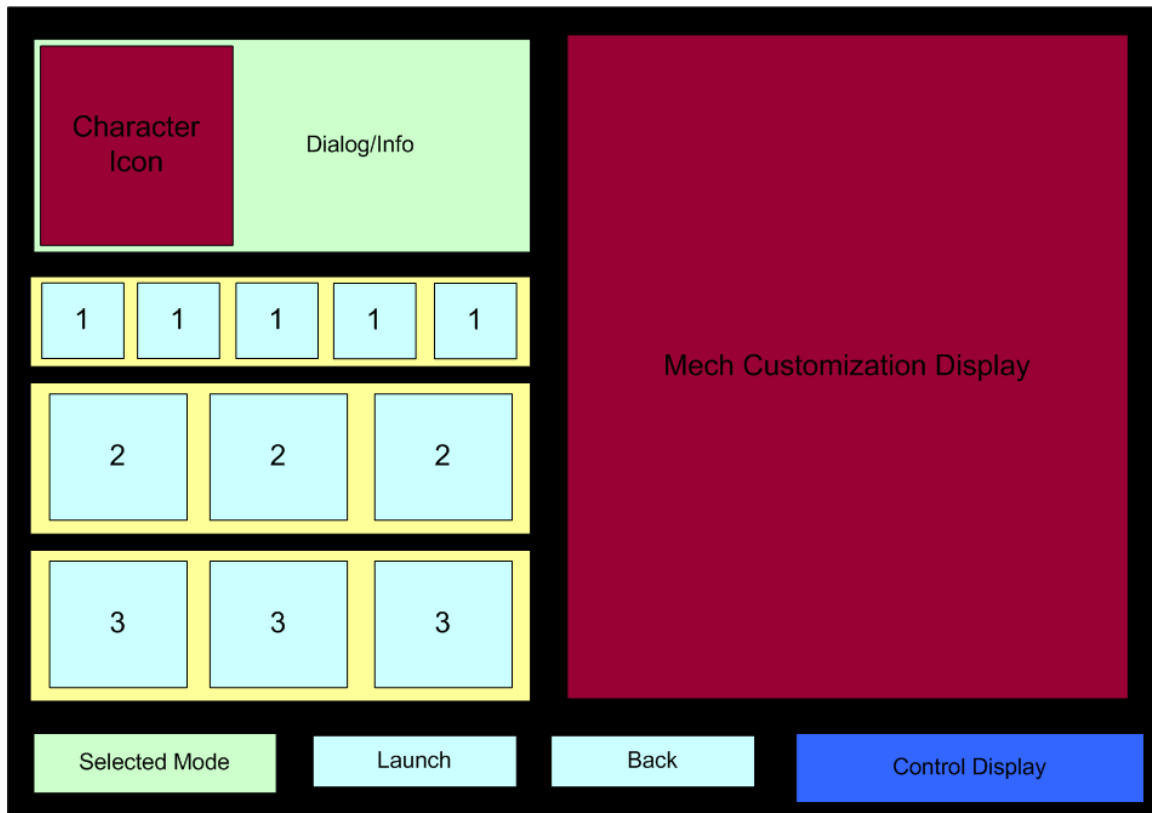
**Control Display** – Shows the controls for the screen.

Up and Down for D-Pad or Left Stick: Scrolling menu buttons.

Left and Right for D-Pad or Left Stick: Changes selection.

X: Select Difficulty (OK).      Circle: Go Back (Cancel).

## 15.8 Equipment Selection Screen



The equipment screen lets the player choose certain customizations for the Mech.

**Character Icon** – The supporting mechanic character is displayed in this box.

**Dialog/Info** – The supporting mechanic character’s dialogue in this area and describes the highlighted button if it is an equipment. Otherwise, the character gives an advice relevant to the level selected or the mode selected.

**Mech Customization Display** – An animated artwork that shows the equipment being installed and the location of the equipment on the mech.

**One (1)** – The selectable weapon button which is selected by leaving it highlighted.

**Two (2)** – The selectable shield button which is selected by leaving it highlighted.

**Three (3)** – The selectable boost button which is selected by leaving it highlighted.

**Selected Mode** – Displays the mode selected in the previous menu.

**Launch** – Starts the selected mode.

**Back** – Goes back to the previous menu.

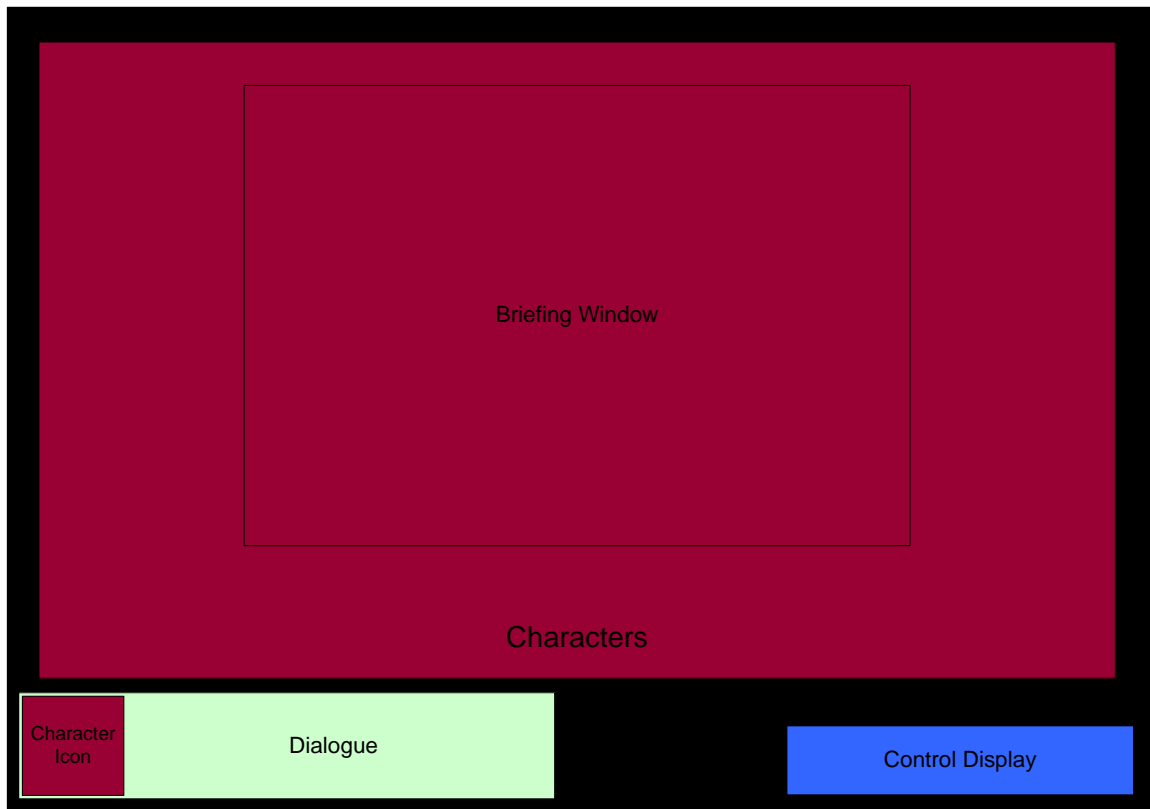
**Control Display** – Shows the controls for the screen.

Up, Left, Down, Right for D-Pad or Left Stick: Scrolling menu buttons.

X: Select Button (OK). It will also scroll down to the next equipment if the equipment is selected.

Circle: Go Back (Cancel).

## 15.9 Briefing Screen



The briefing screen is where most of the story is revealed. The upcoming battle is being displayed and the characters plan about what is coming next.

Briefing Window – This is where most of the graphics show the planning.

Characters – The characters are sitting around a meeting table, but the room is dark and the characters are shown through their silhouette from being lighted by the briefing window screen.

Character Icon – The animated face of the character speaking.

Dialog – The dialogue of the character speaking in the character icon.

Control Display – Shows the controls for the screen.

X: Skip dialogue line.      Start Button: Skip Briefing Scene.

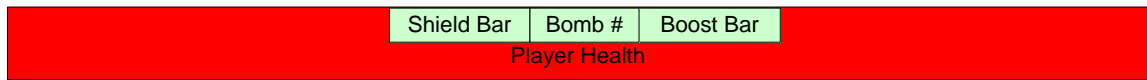
## 15.10 *Gameplay HUD*



The gameplay HUD for the game is compact to the top or bottom depending if the player selected where to put the HUD.

- Dynamic Health Bar – The health bar for the player or enemy (explained in 13.11).
- Shield Bar – The display for the shield cooldown. Must be filled to be able to use it.
- Bomb # – The number of bombs available.
- Boost Bar – The display for the boost cooldown. Must be filled to be able to use it.
- Gameplay Area – The area where the gameplay takes place.
- Character Icon – The animated face of the character speaking. Happens as a popup.
- Dialog – The dialogue of the character speaking in the character icon.

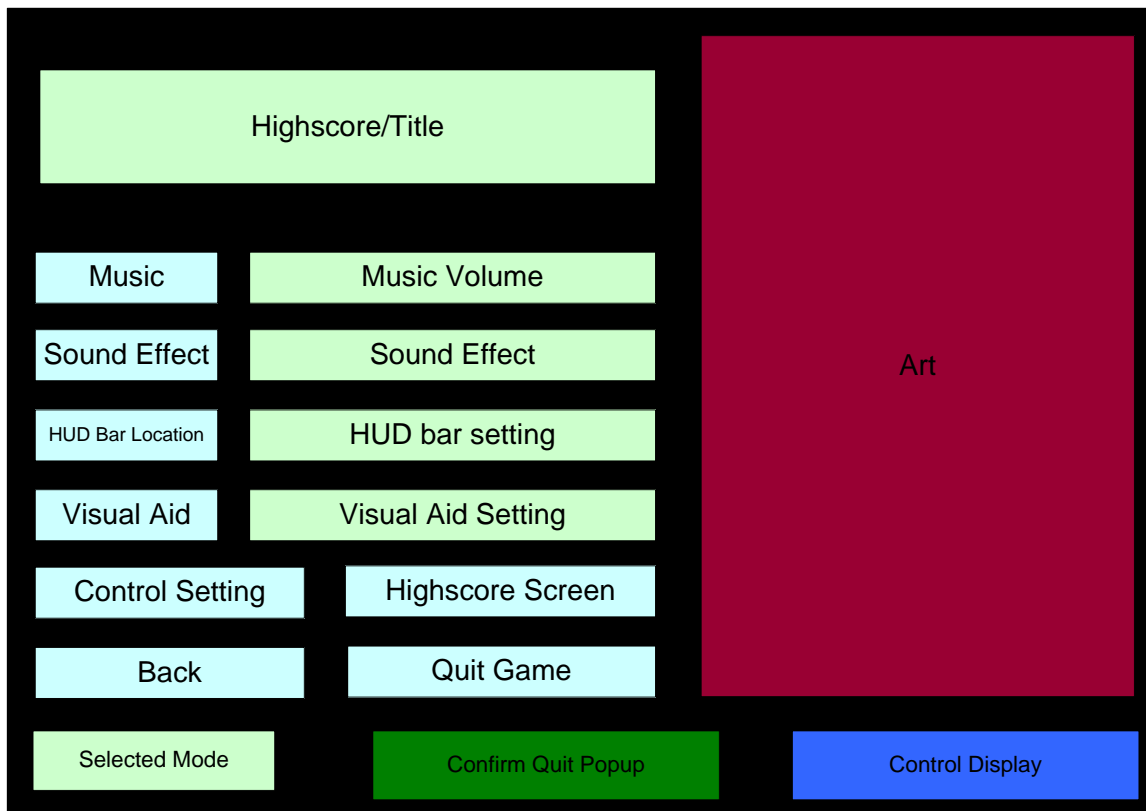
### 15.11 *Dynamic Health Bar Interface*



The health bar is dynamic by scaling when there is an important enemy, like a boss or special mid-stage boss that needs its health displayed.

The health bar scrolls smaller and makes room for the enemy health until the half way point. If there are more enemies, the enemies' health divides in the same proportion.

## 15.12 Options/Pause Screen



The option screen let's the player set certain options and allows controller settings. The option screen also serves as the pause screen.

**Highscore/Title** – If the game is being played, this would display the current highscore and the highest achieved highscore, otherwise it displays the title of the game.

**Art** – An artwork of the Mech hanger.

**Music** – The button for music volume setting.

**Music Volume** – A bar display for music volume.

**Sound Effect** – The button for sound effect volume setting.

**Sound Effect Volume** – A bar display for sound effect volume.

**HUD Bar Location** – The button to set where the HUD Bar is located.

**HUD Bar Setting** – Allows the setting for the HUD Bar, either top or bottom.

**Visual Aid** – The button is for toggling the visual aid setting.

**Visual Aid Setting** – Displays on or off for visual aids.

**Control Setting** – The selectable button to go into the control setting menu.

**Highscore Screen** – The selectable button to go into the highscore menu. Only appears when the options menu is used as a pause.

**Back** – Goes back to the previous menu or back into the game if the game is being played.

**Quit Game** – The selectable button to quit the game back to the title screen. Prompts a confirm quit popup.

Selected Mode – Displays the mode being played or displays options if it isn't the pause menu.

Confirm Quit Popup – A popup that appears when the player selects the quit game button. The player would be able to select yes or no in that popup. This is to prevent accidental presses of quitting the game.

Control Display – Show the controls for the screen as well as certain highlighted buttons. Changes depending on which button is highlighted.

Music/Sound Effect/HUD Bar Location/Visual Aid highlighted

Up and Down for D-Pad or Left Stick: Scrolling menu buttons.

Left and Right for D-Pad or Left Stick: Changes selection.

X: Select Button (OK). It will also scroll down to the next option.

Circle: Go Back (Cancel).

Control Setting/Highscore Screen/Back/Quit Game highlighted

Up, Left, Down, Right for D-Pad or Left Stick: Scrolling menu buttons.

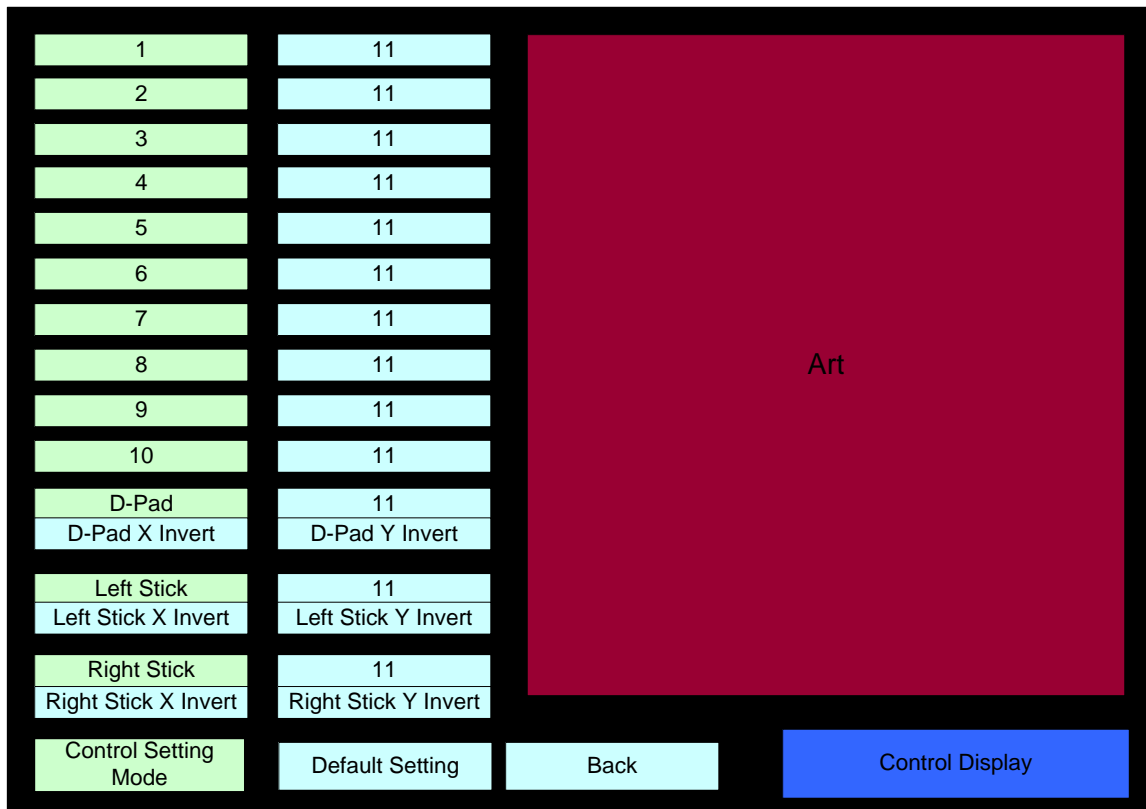
X: Select Button (OK). Circle: Go Back (Cancel).

Confirm Quit Popup

Left and Right for D-Pad or Left Stick: Changes selection.

X: Select Decision (OK). Circle: Go Back (Cancel).

### 15.13 Controller Setup Screen



The controller set up screen allows the player to set up the control scheme. It always starts out as the default control scheme from section 11 until altered.

Art – A schematic art of the Mech that has connectors from certain parts of its body to the highlighted button

One to Ten (1-10) – The input for the controllers including bumpers, face buttons, and pressing the analog stick. The order is not set.

D-Pad, Left Stick, Right Stick – The directional inputs.

Eleven (11) – A button that displays which function the controller input has been set to be.

Invert Buttons – The invert buttons change the directional orientation of the D-Pad, left stick, right stick. Selecting it will toggle normal or inverted.

Control Setting Mode – The label of the controller setting screen.

Default Setting – A selectable button that will set the controls to the default control screen from section 11. Note that the left and right stick press buttons are left without a function.

Back – Goes back to the option/pause screen.

Control Display – Shows the controls for the screen.

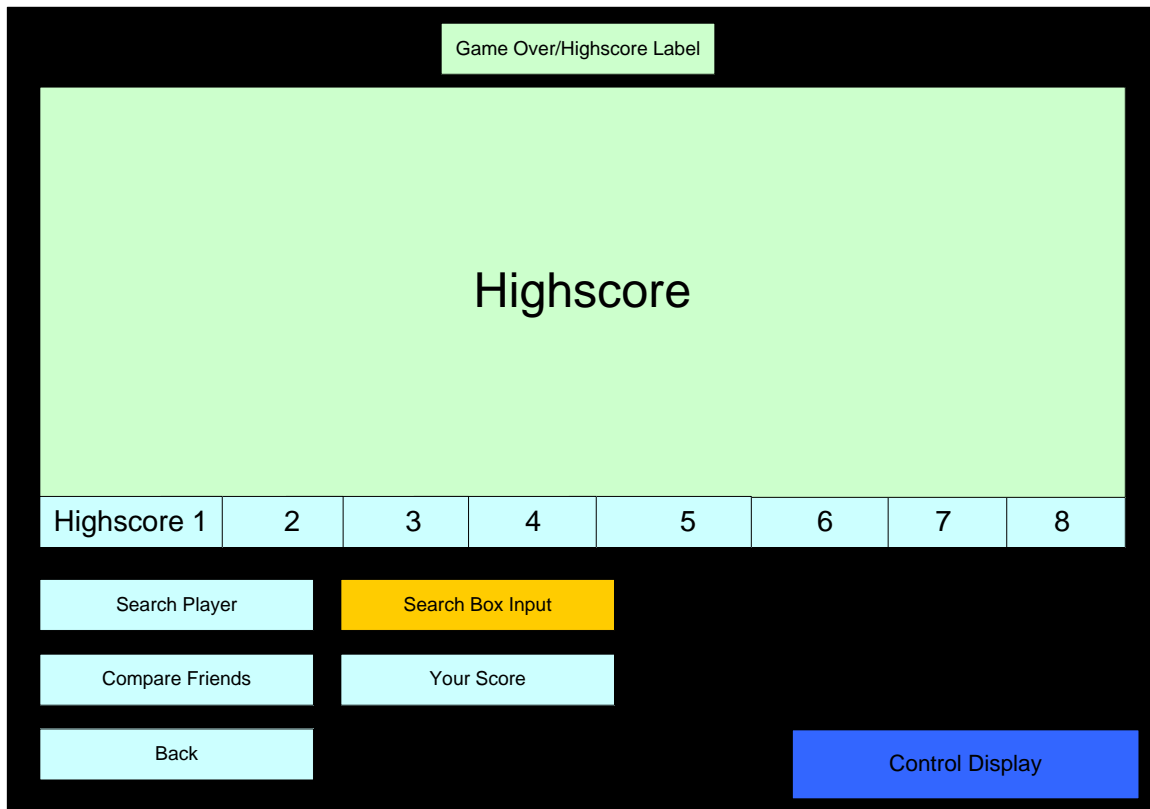
Up and Down for D-Pad or Left Stick: Scrolling menu buttons.

Left and Right for D-Pad or Left Stick: Changes selection.

X: Select Button (OK). It will also scroll down to the next option.

Circle: Go Back (Cancel).

## 15.14 Highscore Screen



The screen for highscore displays the online score and the players score.

**Game Over/Highscore Label** – If the player dies or quits the game, the game over would appear. The game over would transition with the label of highscore with fade in and fade out.

**Highscore** – Highscores would be shown here.

**Highscore One to Eight (1-8)** – A tab with different kinds of highscores for the different modes.

**Search Player** – A selectable button that will let the player use the search box input.

**Search Box Input** – The player could enter a name to search for in the online highscore tally. Pops up when search player is selected.

**Compare Friends** – Changes the highscore table to show only the player and anyone on the player's friends list.

**Your Score** – Displays only the player's score.

**Back** – Goes back to the previous screen or goes to the title screen if it is a game over.

**Control Display** – Shows the controls for the screen.

Up, Left, Down, Right for D-Pad or Left Stick: Scrolling menu buttons.

X: Select Button (OK).

Circle: Go Back (Cancel) only if it is not a game over screen.

## 16 Mechs

### 16.1 *Description*

#### 16.1.1 **Venerex Sigma**

This mech was created by the Royal Eden Military utilizing a newly birthed Sigma Source in order to infiltrate the nation of Vexall. It can carry two weapon types, a shield, a beam sword, and has the ability to boost for a short distance while in combat. The boosters on the Venerex utilized the Sigma Source capacitor to act as a high speed propeller; however, this mode shuts off all combat functionalities aside from limited maneuverability.

#### 16.1.2 **Omega Venerex**

This mech is an unlockable mech that can be obtained after beating the game. It uses the power of the Omega Source from the Exhorhal in order to combat the hardest difficulty. The Omega Venerex only has two kinds of weapons, one shield type, a more powerful beam sword, and one kind of booster, but all of its equipments are the best kind – the fastest cooldowns and the longest duration of use - that aren't available to the Venerex Sigma.

#### 16.1.3 **Stats**

The Venerex has four stats – health, speed shield and boost. The Omega version will have more health and speed.

Venerex	Health	Speed	Shield	Boost
Sigma	200	10	3	3
Omega	300	15	1	1

Health – The amount of Damage the mech can take.

Speed – The percentage of the screen width traveled in a second.

Shield – The capacity amount of energy for blocking.

Boost – The capacity amount of energy for boosting.

### 16.1.4 Targeting

The Venerex will have three speeds for moving the targeting reticule. The different speeds of moving the reticule is achieved by how far the analog stick is depressed. The speed is the same as represented above in 15.1.3. The speed is a percentage of the screen size and how fast the player can move the reticule within that distance in a second.

Targeting Speed	Percentage of Depress	Speed
1	1-25	10
2	50	20
3	75-100	30

Percentage of Depress – The amount of side push on the analog stick.

Speed – The percentage of the screen width traveled in a second.

## 16.2 Equipment and Abilities

### 16.2.1 Weapons

The Venerex has different kinds of rifles it can use which yield different damage and spread range. It also has a melee weapon which can be used to charge in and deal massive damage to enemies within melee range.

Weapons	Damage	Firing Rate	Multiplier
Burst	20	5	1
Spread	10	5	0.5
Laser	8	20	0.4
Shotgun	60	2	3
Sniper	60	2	3
Beam Sword	500	0.4	25
Bomb	300	0.5	15
Sigma Bomb	100	0.2	5

Damage – The damage one shot can deal.

Firing Rate – The number of attacks done in a second.

Multiplier – The multiplier for damage scaling from normal burst damage.

Burst – A normal pulse energy shot that has a normal rate of fire.

Spread – A pulse energy shot that has a large spread but with weaker firepower.

Laser – A continuous pulse of energy that is extremely weak but can constantly damage.

Shotgun – An extremely damaging shot that only affects the melee zone and has low rate of fire.

Sniper – An extremely damaging shot that only affects the range zone and has low rate of fire.

Beam Sword – An energy sword that cuts through enemy dealing high amounts of damage. The Venerex must be positioned well and take time to charge in and attack.

Bomb – A high energy burst attack that encompasses the entire area.

Sigma Bomb – A large laser beam that encompasses the entire area. Does 100 damage per second when active.

The damage the mech deals to the enemy is by the following formula:

**Current Enemy Health – Player Damage = New Enemy Health**

### 16.2.2 Shield Repel

The Venerex holds a shield that can absorb damage by generating a repulsing energy. There are different kinds of shield which have a longer duration of use, but the longer it is used, the more time it is needed to recharge the repulsion capacitor. **The shield won't block damage from missiles or attacks from the side within the hitbox zone.**

	Duration	Recharge	Cooldown
Shield 1	1	3	1
Shield 2	2	1.5	2
Shield 3	3	1	3

Duration – The max amount of time the shield can be held out.

Recharge – The amount of energy recharging the shield capacity per second.

Cooldown – The amount of time needed to recharge the shield per second.

### 16.2.3 Boost Dash

The Venerex uses its boosters in short bursts to achieve a dashing capability to dodge oncoming fire. The boosters use up a significant amount of power and can cause the Venerex to lose all combat capabilities. A safety mechanism has been put in place so that the boosters can only use up a certain amount of capacitor power. The capacitor needs to be fully recharged. There are three types of boosters which have varied time of use but at the cost of a longer recharge time. The dash takes a quarter of a second to travel the distance rather than a full second for normal movement.

	Distance	Recharge	Cooldown
Boost 1	10	3	1
Boost 2	30	1.5	2
Boost 3	50	1	3

Speed – The percentage of the screen width traveled in a second.

Recharge – The amount of energy recharging the boost capacity per second.

Cooldown – The amount of time needed to recharge the boost per second.

## 17 Enemies

### 17.1 *Damage Table*

Enemy damage is static and scaled according to difficulty and the type of attack. The least damaging attack should take at least 5% of the player's health while the most damaging attack shouldn't kill the player in one hit (with an exception of hitting objects or the most devastating boss attack in Master mode). The boss attack types are mainly reserved for bosses as they do more damaging attacks, but the bosses do has level enemy attack types.

Enemy Damage		Easy	Normal	Hard	Master
	Multiplier		1	2	4
Normal	1	10	10	20	40
Missile	2	20	20	40	80
Melee	4	40	40	80	160
Wall		200	200	200	300
Boss Attack					
Power	3	30	30	60	120
Beam	5	50	50	100	200
Smash	10	100	100	200	400

The formula for difficulty scaling is the (Damage Easy) x (Difficulty Multiplier).  
The formula for damage type is (Normal Damage) x (Type Multiplier).

Note that damage type names do not entirely represent the graphics of the attack, but represent the function of the attack for the level design.

The damage the enemy deals to the player is by the following formula:

$$\text{Current Player Health} - \text{Enemy Damage} = \text{New Player Health}$$

## 17.2 *Attack Travel Speeds*

The time it takes for an enemy attack to travel to a certain zone (zones noted in the Depth Field section 12) is a set duration of time. No matter what angle the attack was shot at in relevance to the player's position, it will take the same amount of time for all attacks to travel to the hitbox. There may be attacks from within the far zone, but these attacks will take on a different mechanic which is heavily based on visuals to tell when to dodge the attacks.

Attack Travel Speed	Duration of Time (seconds)	
	Slow	Fast
Hitbox		
Range to Hitbox Zone	3	1
Range to Melee Zone	2.25	0.75
Melee to Hitbox Zone	0.75	0.25

## 17.3 *Level Enemies*

There are a number of enemy units, like mechs and monsters, with varied patterns of attacks, but they are graphically different. There are only stats for three kinds of enemy types which are classified as light, medium, and heavy.

Health Table

Enemy	Easy	Normal	Hard	Master
Light	40	40	40	120
Medium	200	300	400	800
Heavy	1000	1000	1500	2000

Note that the difficulty scaling is not the same for each type of enemy because the enemy types have certain roles that functions in the level. It is also important to note that all enemies have a rate of fire variable, but there is no set variable as it is a level design issue.

Light - The light type enemy is easily killed and mainly plays a role of doing keeping the player's attention by throwing out easily dodged attacks. They are not on the screen for very long.

Medium – The medium type enemy can take a bit more damage and throws out faster or a wider spread range attacks. They stay on the screen three times longer than the light type.

Heavy – The heavy type will usually be sparse throughout the level. Their role is to really try and kill the player with better attacks. They stay on the screen six times longer than the light type, but in some cases, they must be killed to progress the level.

## 17.4 Bosses

The bosses are the main highlight of the gameplay. They have a more unique gameplay experience and offer a more challenging fight. Most of the boss fights should take about five minutes on easy difficulty.

Boss Health Table

	Multiplier	1.2	1.4	2
Boss	Easy	Normal	Hard	Master
Level 1	30000	36000	42000	60000
Level 2	30000	36000	42000	60000
Level 3	20000	24000	28000	40000
Level 4	37500	45000	52500	75000
Level 5	30000	36000	42000	60000
Level 6	37500	45000	52500	75000
Level 7	30000	36000	42000	60000
Level 8	37500	45000	52500	75000
Level 9	45000	54000	63000	90000
Level 10	20000	24000	28000	40000
Level 11	30000	36000	42000	60000
Level 12	30000	36000	42000	60000
Level 13	45000	54000	63000	90000
Level 14	37500	45000	52500	75000
Level 15	45000	54000	63000	90000
Level 15+	60000	72000	84000	120000

The formula for the difficult scaling is (Boss Health Easy) x Multiplier.

For each boss, they are scaled according to the level 1 boss. The level 1 boss is the standard health size for a five minute fight. The differences in health are due to the bosses' ability to dodge or have shields, or are generally tougher to kill.

The boss fights are broken down to phases. Different phases start up when the boss health reaches a certain percentage of its life, and each phase will open up a new array of attacks. There are two to five phases depending on the boss.

Boss Phase	Phase One	Phase Two	Phase Three	Phase Four	Phase Five
Two Phase	100%	40%			
Three Phase	100%	60%	30%		
Four Phase	100%	75%	50%	30%	
Five Phase	100%	80%	60%	40%	20%

The different boss' attacks use the damage numbers from the damage table but their attacks are level design based. Boss design is one of the important components of the game, and the following helps define the boss fight.

#### **17.4.1 Vexall Siege Battleship**

(Level 1 – Two Phase Boss)

The Vexall Siege Battleship is a large marine battleship that serves as launch platform for mechs. It has various shield generators, large turrets, and missile turrets.

#### **17.4.2 Vexall Defence Platform**

(Level 2 – Three Phase Boss)

The Vexall Defence Platform is used to destroy any enemies passing by in space. Using powerful long range beam attacks to shoot down enemies, the platform serves as a perfect way of keeping anyone from passing a blockade.

#### **17.4.3 Elite Vexall Guard**

(Level 3 – Two Phase Boss)

The Elite Vexall Guard is a more advanced soldier mech piloted by the Vexall elite. It is very agile with a more powerful beam gun. It is also equipped with a beam sword.

#### **17.4.4 Assembly Defence Grid**

(Level 4 – Four Phase Boss)

The Assembly Defence Grid has layers of armour and energy shielding to protect it from intruders. It is also equipped with powerful energy weapons to destroy enemies. As the shielding gets broken through, it starts using energy nets and high-powered laser beams at the cost of powering the assembly station.

#### **17.4.5 Vexall Planet Power Station**

(Level 5 – Two Phase Boss)

The Vexall Planet Power Station is a hydro power station in the shape of an octopus using its tentacles as pumps. Its defence capabilities contain a lot of missiles, powerful laser beams, and a devastating attack using its pumps.

#### **17.4.6 Dragon Monster**

(Level 6 – Two Phase Boss)

A three headed space monster mutated by Source experiments with capabilities of producing high energy blasts.

**17.4.7 Iron Fist**

(Level 7 – Two Phase Boss)

This mech has a powerful Source that lets it endlessly replicate a large number of missiles. It is very durable and has a small shielding capable of withstanding all attacks when it is on.

**17.4.8 Big Wall Creature**

(Level 8 – Three Phase Boss)

A large space creature that inhabits an asteroid which was mutated by Vexall experiments with the Omega Source. It uses its powerful arms to swipe at its prey and is capable of firing energy blast from its mouth and hands.

**17.4.9 Vexall World Destroyer**

(Level 9 – Five Phase Boss)

This vehicle serves as a mech base and a siege weapon. It contains enough weapons to destroy an entire colony. It has five major components that are vital to its systems which would stop it from function if it were to be destroyed.

**17.4.10 Thalanos**

(Level 10 – Three Phase Boss)

The Thalanos is a powerful mech that uses several modules as shielding and attacking. These modules are capable of protecting the mech and firing out all sorts of attacks.

**17.4.11 Shiveren's Hologram**

(Level 11 – Two Phase Boss)

Starts with two Elite Vexall Guards with 20% of its normal health.

This hologram isn't as powerful as the real thing, but its body is capable of damaging electronics. The hologram mainly uses its sword to attack.

**17.4.12 Plasma Storm**

(Level 12 – Three Phase Boss)

This space monster is another creation of a failed Omega Source experiment that is practically a living cloud of electrical power. It is capable of firing out energy burst from merged electrical nodes. The storm could be weakened by hitting concentrated energy clouds within it.

**17.4.13 The Silver Shiveren**

(Level 13 – Five Phase Boss)

The Silver Shiveren is a powerful mech that has high maneuverability and devastating attacks. It is equipped with the same kinds of weapons the Venerex uses. The Silver Shiveren is capable of remotely controlling its rifles and using its beam sword at the same time.

**17.4.14 Exhorhal Shell**

(Level 14 – Two Phase Boss)

The final defence of the last exhaust vent is comprised of various powerful beam turrets and several smaller burst turrets. It can also direct the exhaust to channel excreted energy towards its intruder.

**17.4.15 Exhorhal**

(Level 15 – Three Phase Boss)

The Exhorhal is a very, very big mech. It is highly maneuverable for its size. It contains a lot of beam weaponry and uses its body to try and smash into its opponent.

**17.4.16 Exhorhal Supreme**

(Level 15+ - Five Phase Boss)

The final form of the Exhorhal shows no limit to its power. It is capable of generating highly concentrated laser beams that is able to arc and home in onto its opponent and use those beams to encompass a small area of space making it a sort of net. The power of the Omega Source also lets it generate miniature black holes that sucks in and damages anything near it.

## **Artificial Intelligence**

There isn't much A.I. in this game. There are three attack procedures, one enemy control procedure, and one dodge procedure. Most of the game is based on scripted level design of when enemies enter and exit because it is a rail shooter. It is important to note that all enemies have a set duration of how long they appear on the screen.

### **17.5 *Enemy Encounter***

- 1 Enemy appears
- 2 Start time duration count
- 3 **Check** if time duration expired
  - If yes**
    - 3.1 Move out of screen
    - 3.2 Kill enemy
    - 3.3 End
  - If no**
    - 3.4 Continue to enemy health check (4)
- 4 **Check** if enemy health  $\leq 0$ 
  - If yes**
    - 4.1 Do death animation
    - 4.2 Kill enemy
    - 4.3 End
  - If no**
    - 4.4 Continue to dodge check (5)
- 5 Check if enemy can dodge
  - If yes**
    - 5.1 Go to Dodge Procedure
  - If no**
    - 5.2 Continue to attack type check (6)
- 6 **Check** if enemy is a range attacker
  - If yes**
    - 6.1 Go to Range Attacking procedure
  - If no**
    - 6.2 Go to Melee Attacking procedure
- 7 Continue to check time duration (3)

## **17.6 Range Attacking**

- 1 Target player's location in hitbox zone
- 2 Check if attack is a projectile attack

**If yes**

- 2.1 Go to Projectile Attack procedure

**If no**

- 2.2 Go to Missile Attack procedure
- 3 Cooldown attack
- 4 Continue to player targeting (1)

## **17.7 Melee Attacking**

- 5 Find player's location in hitbox zone
- 6 Move to player's location
- 7 Attack at player's location
- 8 **Check** if player location = attack location

**If yes**

- 8.1 Deal melee damage
- 8.2 Continue to attack cooldown (5)

**If no**

- 8.3 Continue to attack cooldown (5)
- 9 Cooldown attack
- 10 Continue to player targeting (1)

## 17.8 *Projectile Attack*

- 1 **Check** if projectile is destructible

**If yes**

- 1.1 **Check** if missile health  $\leq 0$

**If yes**

- 1.1.1 Kill projectile
- 1.1.2 End

**If no**

- 1.1.3 Continue to zone check (3)

**If no**

- 1.2 Continue to zone check (3)
- 2 Travel to player location
- 3 **Check** if projectile is at hitbox zone

**If yes**

- 3.1 **Check** if player location = projectile location

**If yes**

- 3.1.1 Deal projectile damage to player
- 3.1.2 Kill projectile
- 3.1.3 End

**If no**

- 3.1.4 Kill projectile
- 3.1.5 End

**If no**

- 3.2 Continue to traveling (2)

## 17.9 *Missile Attack*

- 1 Create missile reticule at player's location
- 2 **Check** if missile is destructible

**If yes**

- 2.1 **Check** if missile health  $\leq 0$

**If yes**

- 2.1.1 Kill missile
- 2.1.2 End

**If no**

- 2.1.3 Continue to player lock check (3)

**If no**

- 2.2 Continue to player lock check (3)

- 3 **Check** if player's location = missile reticule

**If yes**

- 3.1 Continue to traveling (4)

**If no**

- 3.2 Move missile reticule to player
- 3.3 Continue to traveling (4)

- 4 Travel to missile reticule
- 5 **Check** if missile is at hitbox zone

**If yes**

- 5.1 **Check** if player location = missile location

**If yes**

- 5.1.1 Deal missile damage to player
- 5.1.2 Kill missile
- 5.1.3 End

**If no**

- 5.1.4 Kill missile
- 5.1.5 End

**If no**

- 5.2 Continue traveling (4)

### **17.10 Dodge Procedure**

- 1 **Check** if player attacked enemy location

**If yes**

- 1.1 Move in random location using the same 10 Boost Dash ability of the Venerex (10 percent of the screen in perspective in a quarter of a second).

**If no**

- 1.2 Continue to attack check (1)

## **18 Highscore**

The highscore is calculated by the number of enemies killed and various statistics recorded for the end result for finishing the level or after the player dies.

### **18.1 Level Score**

The level score is a culmination of recorded statistics that is calculated at the end of the level or after the player dies. This is recorded

Remaining Health – The amount of health that the player has remaining.

Remaining Bombs – The amount of bombs that the player has remaining.

Percentage of Enemies Killed – How many enemies the player killed in relation with the total amount of enemies.

Shot Accuracy – The percentage of shots the player registered as damage versus shots that didn't register damage.

The total level score is calculated by the following:

**Remaining Health Score + Remaining Bombs Score + Percentage of Enemies Killed + Shot Accuracy = Total Level Score**

The formula for the score after the total level score has been tallied is the following:

**Current Score + Total Level Score = New Current Score**

## 18.2 *Enemy Kill Score*

The enemy kill score is the point sheet for how many points the player obtains when the player kills an enemy type. The points depend on what kind of enemy was killed and what difficulty the player had set.

The following is the table for all the enemies' kill points for certain difficulties including bosses. The table uses the easy light enemy as a base point count. The formula for calculating the table is the following:

(Easy Light Enemy Point) x Difficulty Multiplier x Enemy type Multiplier

Multiplier		1	2	4	10
	Enemy/Difficulty	Easy	Normal	Hard	Master
1	Light	100	200	400	1000
2	Medium	200	400	800	2000
3	Heavy	300	600	1200	3000
10	Mid Boss	1000	2000	4000	10000
100	Level 1	10000	20000	40000	100000
110	Level 2	11000	22000	44000	110000
120	Level 3	12000	24000	48000	120000
130	Level 4	13000	26000	52000	130000
140	Level 5	14000	28000	56000	140000
150	Level 6	15000	30000	60000	150000
160	Level 7	16000	32000	64000	160000
170	Level 8	17000	34000	68000	170000
180	Level 9	18000	36000	72000	180000
190	Level 10	19000	38000	76000	190000
200	Level 11	20000	40000	80000	200000
210	Level 12	21000	42000	84000	210000
220	Level 13	22000	44000	88000	220000
230	Level 14	23000	46000	92000	230000
240	Level 15	24000	48000	96000	240000
250	Level 15+	25000	50000	100000	250000

The formula for the score after an enemy has been killed is the following:

**Current Score + Enemy/Difficulty Point = Current New Score**

## **19 Characters**

### **19.1 *Eden***

Eden is the first planet to be colonized. It is where the Source was discovered. Ever since the power of the first Source was harnessed, Eden became the central world for science and military. Unaffiliated with any of Earth's religion, government, or beliefs, Eden is a neutral world with the sole purpose of preserving and advancing life (like Star Trek's federation). It has also become a place for advanced science research and military training. The Royal Eden Military is the most prestigious military forces where the protagonists are a part of.

#### **19.1.1 Zack Zenith**

Age: 20

Title: Top Soldier of the Royal Eden Academy and pilot of the Venerex Sigma.

Zack Zenith is the main protagonist of Sigma Source. He is one of the best soldiers from the Royal Eden Military but never takes pride in his rank. He works his hardest to protect his homeworld and will push himself even at his limit. His soldier personality focuses his thoughts on only the mission and he rarely thinks about taking a rest. He's always a team player and always tries to keep a smile. Zack deeply respects his mentor, General Stalcon Tirfang, who taught him everything he knew. He secretly cares greatly about Atalia, his close friend from the military academy.

#### **19.1.2 Commander Crowler Jack**

Age: 52

Title: Commander of the Eden's fleet flagship, The Allegiance.

Commander Crowler Jack is an old veteran of the Royal Eden Military. Being the fleet commander of earlier colonial wars as peacekeeper, he has a lot of experience in military tactics. His stoic personality and overwhelming voice makes the men and women that serve under him deeply respect his role. Crowler cares greatly about protecting those under his command even if it means possibly failing a mission, but he has never failed a mission or a crewman. He is an old comrade of General Stalcon.

**19.1.3 Atalia Alenn**

Age: 20

Title: Top Class Royal Eden Academy Intel Specialist.

Atalia is a prodigy coming out of the academy who specializes in military intel. She shares the same compassion as Zack about protecting their homeworld. As they had fatefully enrolled in the military academy at the same time, they spent a lot of time helping each other to their goals. Atalia's motivation was to keep up with Zack so that she could somehow always be there to help him. She is a strong woman that never worries in a situation; although, she worries greatly about Zack, especially about their standstill relationship as friends.

**19.1.4 Doctor Tressa Julia**

Age: 30

Title: Head Engineer of Eden's Science Research & Development.

Doctor Tressa Julia is the head engineer for the robotics development facility and the Source research facility. She is a rather beautiful and shapely woman who catches the eye of every man who she passes by. She is flirtatious in nature only because her work keeps her from having a love life; however, she doesn't flirt with Zack since she had taught Atalia as an instructor and knows her feelings for him. Doctor Julia is extremely brilliant in the field of science revolving around the Source.

**19.1.5 General Stalcon Tirfang**

Age: 54

Title: General of the Royal Eden Military Force.

General Stalcon Tirfang was born from a noble family lineage that relates to the first Eden colonist. His noble upbringing made him naturally a great leader. Like a general, he is stoic person that is always determined to do what's best for Eden. He is also a mentor of Zack and a friend of Crowler. Since Eden does not have any government or leadership representative, Stalcon is the only thing that could be considered the leader of Eden.

## **19.2 *Nation of Vexall***

The Nation of Vexall came to be when the Earth was abandoned and the more aggressive nations of that time had flown to the most Source occupied systems. Those nations banded together under the leadership of the Krauser family to create a military nation. This nation deeply opposes Eden as Eden was the foremost in science and military research and development. The Nation of Vexall held deep hatred for the other nations that had fled Earth and found the opportunity to grow a vast military to start retaliating for past conflicts. The Nation of Vexall holds no morals against dangerous experiments and destroying the innocent.

### **19.2.1 Vexall Krauser**

Age: 35

Title: Leader of the Vexall Nation.

Vexall Krauser the Twelfth is the current leader of the Vexall Nation. A madman at heart but a warrior in nature, Vexall shows no signs of fear, but instills fear in his people and councilmen. When he needs to show the control over his people, he shows it with a lot of power. He is responsible for the deaths of thousands of scientists in efforts to find the most powerful Source in the universe. Like the beliefs of his nation, he believes greatly in the cause for no freedom. His mandate is to rule the colonies in order to shape humanity to what he thinks is best.

### **19.2.2 General Kristolph Weiss**

Age: 54

Title: General of the Vexall Military Force.

General Kristolph Weiss was once a part of the Eden military. During the colony wars twenty years before the time of the game, his idealism did not agree with Eden. He defected to the Vexall Nation who he believed had the power to bring the nations under control. As a former friend of General Stalcon, he shares the same personalities except he is too overconfident when he feels like he has more power. To counter his own weakness, he is often more defensive in his strategies.

### **19.2.3 Lieutenant Dugan Darmac**

Age: 29

Title: Top Soldier of the Vexall Military Force.

Lieutenant Dugan Darmac is insane. Though he shows exceptional military prowess and combat abilities, he is aggressive and shows no compassion even with his own people. When facing an opponent, he doesn't hold back. Dugan will unleash as much firepower as he can. He can be a good tactician, but will often slip up due to his behaviour.

### **19.3 *Alvatress Alliance***

The Alvatress Alliance is a group of nations banded together to defend themselves against the Vexall Nation. These nations had engaged in a war a long while ago, but the Vexall Nation didn't take part in that war and grew more powerful. Now the Alvatress Alliance faces an invasion on all their colonies. They pleaded help from Eden when they found intel of the Omega Source being in the Vexall capital. Even though the Alvatress Alliance represents the hot tempered governments of Earth in a similar fashion, the alliance learned from many colony wars, and under the advisory of Eden, started to find peace within the nations.

## 20 Story

The story of Sigma Source is created to be scalable. Although the goal is the entire story, certain levels can be cut out entirely if development time is a factor. Each chapter represents a level in the game, and the chapters of the story are put into three priorities. The priorities are chapters that are necessary (priority 1), chapters that extend the necessary chapters (priority 2), and chapters that can be taken out entirely (priority 3).

Priority 1 – Opening, Chapters 1, 2, 7, 9, 10, 13, 14, 15, Ending

Priority 2 – Chapters 3, 4, 5, 11

Priority 3 – Chapters 6, 8, 12

### 20.1 *Story Summary*

The hero, Zack, and his mech, the Venerex Sigma, with the support of the ship, The Allegiance, stops the Vexall invasion and break the invasion blockade, and they had also destroyed the Vexall forward base. Trying to avoid Vexall forces, The Allegiance runs into space infested with monsters that were created from unstable Source power. As they managed to escape the monsters, they were ambushed by Vexall forces that they managed to defeat but suffered damage. In efforts to repair, The Allegiance hid in an asteroid that was occupied by space creatures and they had escaped. The ship was still damaged, but they continued on their way to their target until they received a distress signal from a nearby planet. That planet was being invaded by Vexall forces and The Allegiance went to help. Zack cleared out the invasion and killed Vexall's top general, however, Zack was backstabbed by his mentor, the commanding general of his homeworld. It was discovered that Zack's homeworld was given to the Vexall by his mentor and the mission of saving their world seem to be lost, but they continued since other worlds were at stake. After days of repair and recovery, The Allegiance gets back on course. Zack went after his mentor to stop him from informing the Vexall homeworld of the mission, but it was a decoy. With the homeworld defenses strengthened, The Allegiance took another route occupied by monsters. They also had to go through an asteroid field which Zack encountered his mentor and defeated him. His mentor explains the situation and told Zack that he is the only one who could stop Vexall. Zack encounters Vexall and destroys the Omega Source. Zack returns home a hero.

## **20.2 Opening**

When man had the technology to travel a great distance in space and colonize other planets, they took off for the closest planet that was habitable. The planet, named as Alpha Centauri at the time, was to be the first planet to be colonized. The colonists started to look for resources they could use to build their cities, but what they found was a piece of their future. At a dig site, a scientist clears off the dirt from an object. He lifts it from the dirt. It was a gleaming gem that felt warm around his hand.

The object was tested and displayed the potential to be an energy source. What was more amazing was that its energy had never run out. Even if they had taken all the energy from it, it would begin to recharge itself like a never ceasing capacitor. The planet where they had found where they had found the power source was renamed into Eden, the garden with the fruits of God. With this source of power, they were able to colonize the vast galaxy in a matter of decades.

As it was with Earth, the galaxy would be broken into nations. A natural disaster forced the Earth's nation to find new capitals within the galaxy, but it would only spark greater mistrust and a larger war.

## **20.3 Chapter 1**

Setting: Eden, planet level.

Enemies: Enemy mechs.

Objective: Destroy Vexall ground forces and escape from Eden.

The alarms sounded and men and women were scurrying about to their stations. A man is seen running as fast as he could to his station. His name is Zack Zenith. He opens a door to a mech hanger and enters into his mech. His mech is the Venerex Sigma, the only mech commissioned with the most powerful Source that Eden birthed, the Sigma Source. The planet was being invaded by the oppressive Nation of Vexall. Zack lifts off to clear out the Vexall ground forces with the support of Atalia Alenn, his operations support, and Commander Crowler Jack, his commanding officer. Zack confronted the Vexall Siege Battleship and taken out most of its weaponry, but a laser blast ripped the battleship apart and a star ship rose out of the waters. The Allegiance, commanded by Crowler, took off to the sky. The Venerex docked into the ship.

## **20.4 Chapter 2**

Setting: Eden's solar system, space level.

Enemies: Enemy mechs.

Objectives: Break through enemy barricade.

In the briefing room, Commander Crowler explains that they are forced to move their schedule of infiltrating the Nation of Vexall due to the invasion of Eden. Eden Royal Military, by the orders of General Stalcon Tirfang, had sent them off to stop the Vexall leader, Vexall Krauser, from using a Source that was rumoured to be the most powerful Source ever discovered. Although Eden was not allied with any other nations, an alliance of nations were opposed to Vexall's oppressiveness and aggressive invasion and tried to fight back. They gave Eden their intel about the Omega Source, and Eden agreed to aid in stopping Vexall Krauser.

They had to break through the blockade that surrounded Eden. Zack set off to clear a path for the ship and destroyed the Vexall Defence Platform, which was keeping any ships from leaving the vicinity of Eden. The Allegiance had punched through the blockade. They set off for Vexall space.

## **20.5 Chapter 3**

Setting: Eden's solar system, space level.

Enemies: Enemy mechs.

Objective: Destroy incoming enemies and protect the ship.

Atalia informs everyone of new intel about a Vexall forward base in Eden's solar system. Zack and the Commander were concerned for anymore invasions on Eden, so they decided to take out the Vexall base. Vexall mech squadrons were in the way, and Zack took off to clear the way.

## **20.6 Chapter 4**

Setting: Eden's solar system's outer planet, space level and space station.

Enemies: Enemy mechs.

Objective: Destroy assembly station.

The Vexall base had an assembly station manufacturing more mechs. Zack found his way through the base defences and destroyed the assembly's power grid. The Allegiance was set to destroy the power station to permanently cripple the forward base.

## **20.7 Chapter 5**

Setting: Eden's solar system's outer planet, planet level.

Enemies: Enemy mechs.

Objective: Destroy power generator.

The power station that was feeding the orbital base the power it needed was a combination of a hydrostation and a Source-powered station in an octopus shaped form. Its defences were useless against the Venerex, and The Allegiance continued on its course.

## **20.8 Chapter 6**

Setting: Outer space, space level.

Enemies: Space monsters.

Objective: Destroy monsters and protect ship.

As the Allegiance had left Eden's solar system, the long range sensors detected several Vexall fleets stationed in key positions for traveling to the Vexall capital. Atalia noted that there was one point that is open for travel but was previously occupied by a Vexall fleet. Commander Crowler suspects that it could be a trap, but Zack had said that if they didn't hurry, another invasion of Eden could happen. The Commander gave the go ahead to travel through.

As The Allegiance entered the area where the Vexall fleet should have been, there was nothing but space debris and derelict ships. It was as if the fleet was destroyed. Atalia indicates there are several objects moving about. The ship was attacked by monsters and Zack set off to fend off the monsters. The Venerex was faced with a large space lizard. Atalia cautioned Zack that it seemed to emanate the same energy as a Source. Zack managed to kill the monster and The Allegiance continued on its course.

## **20.9 Chapter 7**

Setting: Outer space, space level.

Enemies: Enemy mechs.

Objective: Destroy enemy mechs and protect ship.

Zack docked into the ship and took a breather. He was about to go back to his room before Atalia came by to tell him that they had another briefing. As Commander Crowler was about to start the briefing, the ship was attacked. The Allegiance was assaulted by a remnant of the Vexall fleet, a large squadron of mechs under the command of blah. Zack quickly got to his mech and launched to defend the ship. The assault was too much for the ship to handle, and the Venerex was doing its best to defend the ship and ended up completely surrounded by Vexall mechs. Their

objective was not the ship, it was the Venerex Sigma. Zack managed to take out a lot of the mechs with the help of The Allegiance, but blah had a mech powered by a very powerful Source. The mech, named Iron Fist, replicated a numerous amounts of missiles from within and showed no end to it. Atalia said there would be no way a mech could pull that much power that fast. Zack had damaged the Iron Fist and it eventually overloaded, sending out a wave of energy that had resonated from the space monsters. With the ship and Venerex damaged, the Commander ordered to find a safe place to repair.

## **20.10 Chapter 8**

Setting: Inside asteroid, space level.

Enemies: Space monsters.

Objective: Find exit for the ship.

The ship's crew worked hard to repair the damage and Commander Crowler was worried about another attack. Atalia had found a large asteroid with hollow inlets. The commander agreed to use it as a safe spot to hide. Repairs went on for a day and Zack finally got a chance to rest. Suddenly, the cave was breaking down starting from the opening. The ship was forced to move deeper into the cave and Zack was sent out to scout ahead only to find that the asteroid was inhabited by space monsters. Zack fought what he could to find an exit, but he finally faced another large creature that broke through the asteroid. Atalia said it probably caused the opening to collapse. As Zack killed the creature, the break through the wall it had made was a new opening out. The ship was half repaired, but the commander wanted out as soon as possible.

## **20.11 Chapter 9**

Setting: Altressia, planet level.

Enemies: Enemy mechs.

Objective: Clear out Vexall ground forces.

The Allegiance pressed on its course at a slow pace while continue repairs. Although the Zack wanted the ship to get there as soon as possible, he was not in any shape to fight and Commander Crowler reminded him that the crew needs to recover. A few days of repair, rest, and slow travel had passed when a distress signal alerted the ship. A nearby colony was being invaded by Vexall forces. Altressia was the sister planet of Eden that shared close relations. The commander gave no qualms in giving aid to the planet when Atalia and Zack spoke up. They launched the Venerex onto the planet first to clear out the ground forces. Zack destroyed the Vexall Mobile Assault Tank and headed to space to take on the blockade before The Allegiance was intercepted.

## **20.12 Chapter 10**

Setting: Altressia's solar system, space level.

Enemies: Enemy mechs.

Objective: Destroy enemy mechs.

As Zack closed in on the blockade, Kristolph Weiss, general of the Vexall Fleets, contacted him informing that there was no chance for them to win the war. Zack cut him off before he could finish saying what he wanted and started to cut through the blockade. He was finally met up with the general who had a very formidable mech. Atalia informed Zack that it seems to be harnessing the same power as the Iron Fist, but the general told them that his Thalanos is able to contain and use the power of the Theta Source, a spawn of the Omega Source. They battled and Zack won, but after the Thalanos was destroyed, the Venerex was fatally struck by a powerful beam. A silver mech flew by the battered Venerex. Zack faintly recognizes it as his master's mech before passing out.

## **20.13 Chapter 11**

Setting: Outer space and inside space station, space level.

Enemies: Enemy mechs.

Objective: Stop General Stalcon.

The Allegiance finished repairing on Altressia and gave time for Zack to recover from the attack. Zack awoken a day later with Atalia by his bedside. Zack asked who was the one who shot him and if it was his master. Atalia told him that Eden had been taken over, and that reports state that Eden gave up without a fight. She continued to say that the Eden Royal Military seem to working for Vexall. Commander Crowler entered the room and told Zack that their mission still continues, and that not only are they responsible for Eden, but for the nations of a thousand worlds in the Alvatress Alliance. Zack didn't care much about that; he just wanted answers from his master and mentor, General Stalcon.

Back on the ship, Atalia noted that the Shiveren, General Stalcon's mech, was headed for a Vexall communication station. Commander Crowler stated that if they are able to send a message to the Vexall capital that warned them about the infiltration, their efforts would be lost. Atalia calculated that The Allegiance's engines would be able to get close enough to launch the Venerex to get to the station in time to intercept the general. The mission commenced and the Venerex had gotten there in time. Breaking through the station's defences, Zack gotten into the station and faced his master. Two elite Vexall guards met with Zack and the Shiveren watched on. Zack easily defeated the elite guards and went to fight on with the Shiveren. Zack demanded answers but had no reply, and as he defeated the Shiveren, he found out that it was only a hologram.

**20.14 Chapter 12**

Setting: Outer space, space level.

Enemies: Space monsters.

Objective: Kill monsters and protect the ship.

Zack retreated back to the ship and went to the briefing room. Atalia apologized for falling for a decoy but Zack knew they had all fallen for his trap. Commander Crowler noted that General Stalcon is a far superior tactican than himself, falling for a decoy was practically inevitable. Atalia pointed out their situation and that the Vexall fleets seemed to have converged in a defensive position around the Vexall Capital space, but she saw a hole that was not defended. It was a route that was filled with space monsters and a large asteroid field. It was the best route regardless, and Commander Crowler told them to set off for the Vexall Capital. As they approached the space where Atalia had said the monsters occupied, Zack was dispatched to clear the path. The area seemed to emanate a stronger energy pattern than the first time they encounter the space monsters. Atalia had told Zack that she was sure that whatever the Vexall were experimenting with the Omega Source was creating these monsters. She discovered that there was Vexall space debris indicating that it was a research facility. Zack had encountered an enormous plasma storm that seems to be alive and trying to destroy the Venerex. With the help of Atalia's data analysis, Zack managed to calm the plasma storm. The Allegiance went through without anymore encounters.

**20.15 Chapter 13**

Setting: Vexall solar system asteroid field, space level.

Enemies: Enemy mechs.

Objective: Stop the ambush and protect the ship.

Commander Crowler told Zack that they shouldn't underestimate what would happen in the asteroid belt. Although Atalia could not scan any Vexall activity within it, he knew that General Stalcon was waiting for them. Zack agreed and set off ahead of The Allegiance. He was met with Vexall forces as Commander Crowler expected. He battled through them and finally encountered the Silver Shiveren. General Stalcon admired Zack's courage to coming this far. Zack demanded to know why he betrayed Eden. The general said that there was no way to win the way. He had seen the power of the Omega Source, and said that no one could stop Vexall. Zack said he would be able to do it. General Stalcon told Zack that in order to match his courage, he would have to defeat the Silver Shiveren. After a fierce battle, the Venerex had bested the Shiveren, and it was incapable of another fight. The general said to Zack that he had given up Eden and his pride to give the infiltration time to complete its mission and to spare the population of Eden. He had personally sought out The Allegiance so that it would appease Vexall from destroying Eden. He told Zack that the Venerex Sigma and its pilot could defeat Vexall. The Exhorhal was waiting beyond the asteroid belt. Before Zack could reconcile with his master, General

Stalcon sacrificed himself and his mech in order to create a path through the asteroid belt and a dispersion wave to cover their tracks from the Vexall fleet, leading them directly to the home world of Vexall Krauser. Zack was heart-stricken and returned to the ship.

## **20.16 Chapter 14**

Setting: The base in Vexall's solar system, space level.

Enemies: Enemy mechs and the base.

Objective: Destroy the enemy base.

Commander Crowler and the crew saluted the general's sacrifice. The commander said that they must not let his sacrifice be in vain. Zack was determined to end the war. Atalia informed everyone in the briefing room that the Exhoral was a giant base, orbiting the Vexall homeworld, with the Omega Source at its core. The Exhoral had exhaust vents around its hull that could trigger a reactor explosion if they were sealed shut. They were well defended, but she knew Zack could pull it off. Zack smiled and they prepared for their final assault. The Venerex was launched to the Exhoral, and Zack started to take out the exhaust vents. When Zack destroyed the last exhaust vent, the Exhoral started emanating large amounts of energy. Zack got far enough as the Exhoral exploded, but was promptly sent a message stating that they were mistaken if they thought that they destroyed the Exhoral.

## **20.17 Chapter 15**

Setting: Vexall's solar system, space level.

Enemies: Final boss.

Objective: Destroy Vexall.

Zack had quickly gone back to the ship, but he had only docked for a while when the message from Vexall Krauser told them that what they thought they destroyed was not the Exhoral, but the shell that was containing its power. The real Exhoral appeared out of the debris, and it was a giant size mech that seem to be too bulky to move swiftly. Vexall demonstrated that it was fast and could move like a real mech. Zack set off to face the Exhoral.

After destroying the Exhoral, Vexall had said that they doomed themselves. The Omega Source was not only to be contained in just one shell, but three shells was needed in order to control its overwhelming power. Vexall was seen piloting a red mech that seem to emanate a visible energy wave. The Exhoral Supreme was the real mech that controlled the Omega Source. With powers to create miniature black holes, and seemingly endless amounts of energy blasts, the Exhoral Supreme was too powerful. Zack was pressured, but was able to deliver a fatal blow to Vexall. Zack escaped an enormous explosion that eventually turned into a black hole, and The Allegiance fled away from the Vexall Capital solar system.

**20.18 Ending**

The Vexall forces had stopped their invasion on the Alvatress Alliance and had quickly retreated back into their nation's space. They didn't bother intercepting The Allegiance knowing that the Venerex Sigma was in there and was the mech who destroyed the Exhorhal Supreme. Eden was free from Vexall control, the leaders of the Alvatress Alliance met with the crew of The Allegiance, and they gave honour to General Stalcon Tirfang. After all the celebration, Atalia and Zack spent the night together.