Group: X

Design Documentation

Game Mechanics, Interface, Art, Story and Level Design

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Game Mechanics

Core Game Play

C.R.A.B.S. is a tactical, gritty, hard-sci-fi shooter where gameplay rules are derived from the reality of the universe it occupies in order to provide an organic and immersive experience with as few artificial limitations on play style as possible. The game is structured as a cooperative player versus environment (or PvE) scenario.

Players will use a varied and large arsenal of weapons to fight off waves of increasingly difficult enemies. The game will feature environments with a combination of wide open outdoor spaces and underground tunnels and corridors, allowing players to choose when and where to fight. Dynamic and persistent destruction allows the environment to change dynamically throughout the course of the game, with the enemy having the power to open new paths for itself and players being able to deny the enemy other paths in a similar fashion. The game also requires a small level of logistical management, with ammunition being a vital resource that all players need access to in order to effectively defend themselves.

Game Flow

Players that join the match at the beginning will spawn in the back of a dropship. This is the ready room, and the means by which players will always spawn. Players can drop in and out of a match at any stage of the game. Players who join a match in progress will be put into a spectating mode until the next spawn wave. To start a match, all player slots are either full or enough players vote to start, making the drop ship's doors open, allowing players to exit onto the base's landing pad. To avoid issues with players refusing to leave, shortly after the first player exits the dropship, it is triggered to leave, and any players who haven't left are pushed out as it flies off. Similar ready room mechanisms are found in games such as Valve's Left 4 Dead, and Unknown World's Natural Selection.

Players will start with a basic default loadout, with a number of pieces of movable equipment dropped off alongside them, such as automated turrets, mortar launchers, and ammo crates for various types of guns. The mining base is surrounded with fortifications that help players defend against the crabs, with several doors that allow them to enter and leave the base. Much of the fortifications are destructible, and players will benefit from defending them and keeping them intact.

The use of any tool or tactic is entirely optional, with their being only two main objectives, "survive", and "kill crabs". Although not explicitly mentioned outside of tutorials, the main object for the team to defend is the communications uplink that allows them to receive supplies and respawns. Without this, the team will soon run out of ammo and be killed off.

The game plays out in waves. Each wave begins with the dropship revisiting the base to deliver any players waiting to be spawned or equipment queued in the buy menu. The buy menu can be opened at any time with the buy menu key, provided the uplink is not destroyed. Attacks are comprised of multiple sub-waves of crabs. Each sub-wave is preceded by an alarm and the base announcement system stating which direction they are coming from. This gives players a short amount of time to reposition themselves. Waves can come in bursts of two or three sub-waves, increasing in amount and intensity as the game goes on, and gradually using larger and more powerful types of crabs that demand the use of stronger weapons or smarter tactics to kill them.

A wave ends when all of the crabs spawned in that wave have been killed. The dropship will announce over the radio that it is on its way. Any last minute purchases can be made between now and when it arrives and opens its doors. The dropship leaves again after a few seconds and players will have a couple of minutes to set up for the next wave.

If a game has the finite crabs option enabled, every wave of crabs spawned deducts from the global crab population count, starting at several thousand, but varying with difficulty settings. This is displayed at the top of the screen. The population of the current wave is displayed next to it. Every crab killed deducts 1 from this value. The human team wins if both the global population and the current wave population both reach 0, meaning all crabs threatening this base have been killed. The last 1% of the global population will almost always be gigacrabs.

If the crabs manage to get inside the base walls then they will target the power and the communications structures. Losing either of these structures has catastrophic repercussions for the human team, but it does not necessarily mean that they have lost. Not having power or communications leads to an endgame scenario where players are encouraged to head underground to where they can make use of chokepoints like doors and hallways, and where the bigger crabs can't fit.

Losing the communications uplink means the dropship will no longer revisit the base, and losing power means that within a few minutes, all doors, lights, and lifts inside the base will cease to function. All powered doors can be opened manually, but this takes considerably longer and leaves players vulnerable while opening and closing them. All lifts have maintenance ladders than can be climbed instead, allowing players to move between levels but without lifts they cannot take moveable items with them. Without lights, the underground portion of the base is in complete darkness, and players must rely on flashlights, chemlights, flares, and any other light sources they can find to be able to see. Crabs continue to seek out humans in the underground, being able to attack doors to break through them. If all humans are dead during any point in the game, the game is lost.

Characters

Mercenaries

Mercenaries are the player's characters, originating from numerous private military firms and each employ different clothing and equipment styles (customisable within character setup screen – not included in the demo). They are regular human soldiers with no outstanding abilities.
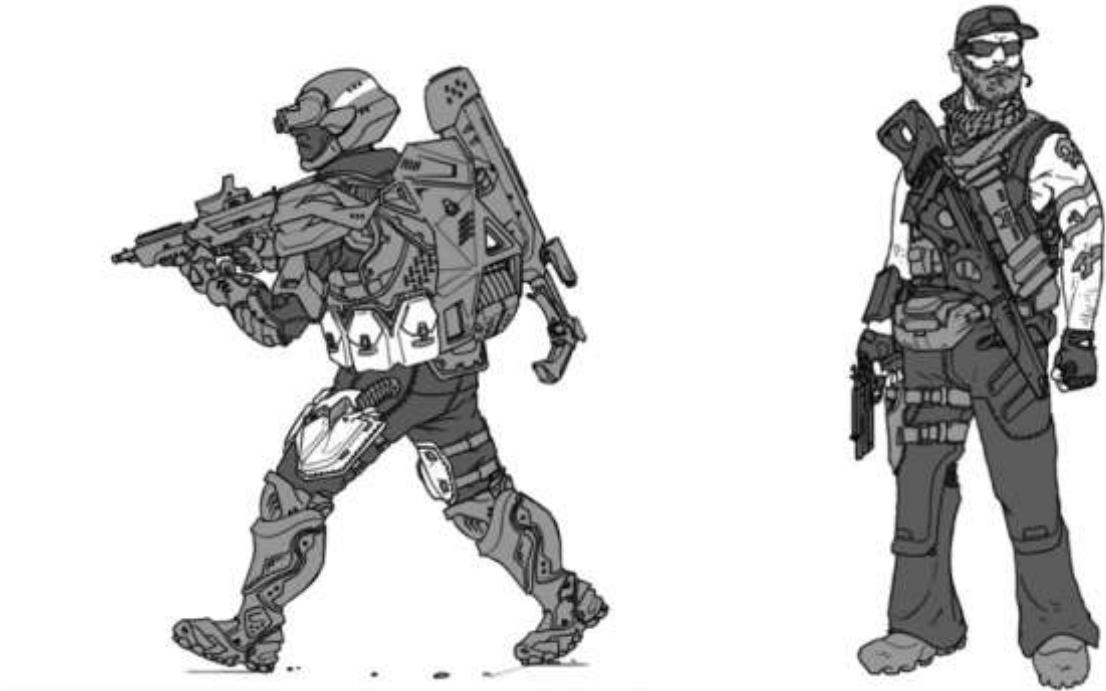
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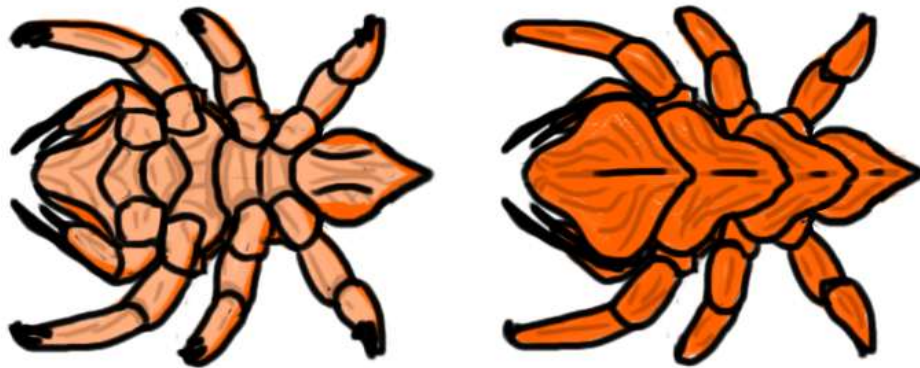
Crabs

Xeno Eridani Ingentes Iratus Spatium Cancrimite, or more commonly referred to as just 'crabs', are an intelligent alien species and the dominant form of life on the planet the game is set on. Their anatomy and behaviour are described here in a realistic and detailed manner, as much of it pertains directly to the rules of gameplay (detailed in Game Play Elements).
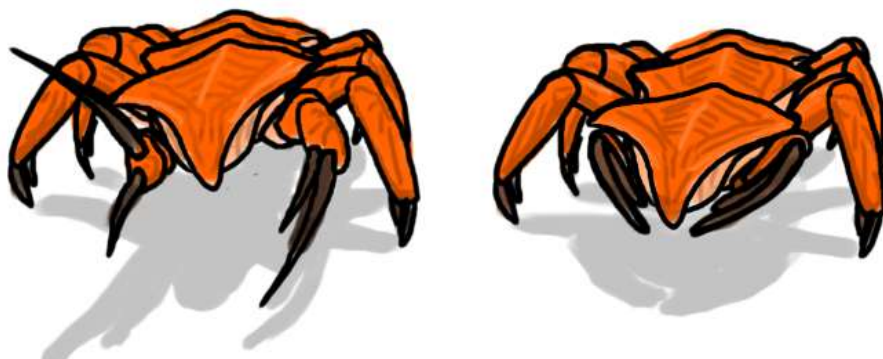
Crabs are a eusocial animal that live in hives consisting of several thousand members, divided into separate phenotypic castes that have radically varied morphology and biochemical properties. Most stand to be about 1.5m tall and 3 meters wide in a relaxed posture. They have an exoskeletal structure comprised of thick, hard plates of a proteinaceous carapace much like chitin, interwoven with a naturally occurring carbon fibre.

Their organs inside the carapace are incredibly soft by comparison (close to a viscous liquid) supported by a cartilaginous internal structure that incorporates the circulatory system. Respiration is accomplished through the use of multiple sets of operculum situated under the flanges of the upper shell segments. The matrix of cartilaginous tubes and sacs interconnecting these and the circulatory system can extract oxygen from both air and water. In water, they can also use this structure to aid in buoyancy control, and on land, they can blast air through them to emit a furious hissing sound. They often do this upon exiting to the water to empty them of fluids.

Unlike most earth creatures, crabs do not have hemoglobin in their blood, but instead use hemocyanin to carry oxygen. Because of the copper present in hemocyanin, their blood is blue. A series of hemocoels bathe the organs directly with oxygen and nutrients and there is little distinction between the blood and interstitial fluid. This same fluid is also used to power the crab's movement using a vascular hydraulic system consisting of many small diaphragms.

Due to the near-liquid state of the crab's internals, physical traumas (such as puncture wounds from bullets) that penetrate the carapace will cause profuse bleeding and destroy the pressure differential in its muscles that enable it to move. Wounds of this nature are difficult to recover from depending on how much fluid is lost. More often than not the crab will become immobilised and die due to asphyxiation, desiccation, or predation, depending on what is punctured or ruptured. The carapace is however very tough, and difficult to penetrate with most small arms.

Crabs sense the world through a combination of biosonar and olfactory sense organs located in the front and top of their cephalic region, and as such, do not need light to see. Crabs can emit a variety of clicks, growls and barks at frequencies audible to humans. They do this both to see and communicate with each other, more enthusiastically in cavernous spaces than when they are in the open.

The crab's front limbs are raptorial in nature, designed to thrust outwards with explosive force and impale prey. Each is tipped with a pair of serrated, razor sharp talons. Muscles at the base of the talons allow them to have some degree of articulation for grasping.
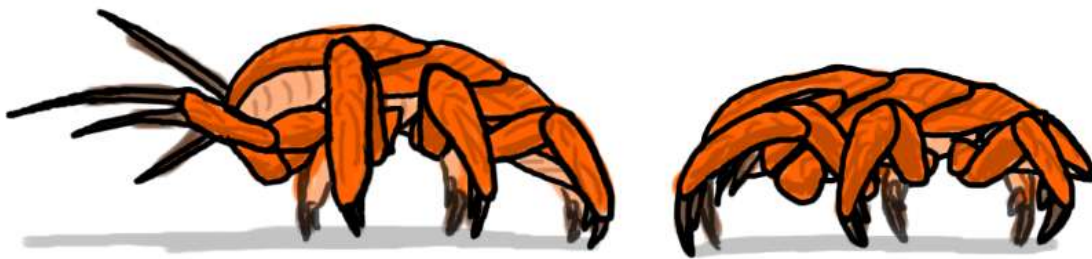
Their nervous system consists of a bulbous central mass in their mid-section with thick stems extending up and down the body, branching into the ends of each limb. Destroying the central mass will, like with most other animals, kill it instantly.

Game Play Elements

This is a functional description of all elements that the player (or characters/units) can engage, acquire or otherwise interactive with. Objects prefixed with an asterisk '*' will not be seen in the demo, these are considered "wish list" items.

Units

Mercenaries

Mercenaries are regular humans, controlled by players, able to move and shoot, carry movable objects, pick up and store items, throw items, and use buttons.

Crabs

Crabs will move towards players or other targets of opportunity depending on their proximities. When they get close enough they will strike the object with their forelimbs, dealing damage to it. Crabs come in a variety of castes with different abilities and statistics. Like vehicles, weapons and items, this list can be expanded post-release.

Drone Crabs are the standard worker crab, being moderately armoured and excellent at digging. Their main special abilities are their thick top armour and increased damage to walls.

**Archer Crabs are smaller and lighter in colour than drones, with bulbous forelimbs and receded talons. The talons of an archer are connected to large muscles that can be over pressurised to autohaemorrhage, firing the talons out at speed enough to impale enemies. This is a single-use ability, and after it has fired its talons it will retreat to the water. If it makes it back, it will be de-spawned and a point will be added back onto the global population counter.

*Gas Crabs are small, stumpy and fat with blue stripes, and will explode via autothysis when faced with gunfire, or if they get close enough to a player. They create a massive cloud of blue gas that obscures player vision, and the explosion can deal minor damage if players are too close to it. The gas itself does not affect player's health, but is irritating to the eyes, makes them cough, and blurs their vision.

*Barricade Crabs have bodies and legs approximately the same size as a drone, but have massively enlarged heads and forelimbs, with broad sclerites that extend out to the sides and above. Their front profile is essentially a massive curved shell, which is too heavy to lift, and ploughs the sand as it moves. Barricade crabs have a very weak attack and are very slow moving, but their thick, wide, front face will stop practically any bullet. Other types of crabs take advantage of this by advancing behind it, taking cover behind its massive head. Up to two crabs either side of a barricade crab can help push it, increasing its movement speed.

*Bullcrabs are larger and are darker in skin tone than a drone, with a fatter head and larger, more muscular hind legs. They have the ability to charge, where they identify a target, and after a slight pause will run at it in a straight line and attempt to smash its barbed front plate into it. If a target is closer they will attack with regular talons. They do extreme damage to walls if they hit them while charging, and they are very heavily armoured. Their front face is nearly impenetrable to small arms fire but they are more vulnerable in the rear. They are easy to kill on open ground because they are

not very nimble and players can easily get a shot at their behind after side-stepping a charge. They are extremely dangerous in hallways however as there is no easy way to flank them or stop their advance.

*<u>Gigacrabs</u> are the largest and strongest known crab, standing at 5 meters tall and being dark brown in colour. They are practically impenetrable from all sides to all small arms fire and even some heavy weapons, but like all crabs, the seams around some joints and openings, particularly on the underside, are vulnerable to all weapons. Gigacrabs have a special ability in which they can stand on their hind legs, and then come down with a powerful stomp that stuns nearby humans and can tip over turrets and collapse walls. Gigacrabs are also too large to go underground, and instead will wander around on the surface, stomping over the top of the base until the humans are forced to come back up if they survive that long.

Weapons

This is an initial list of weapons that fill the necessary archetypes required. This list will be continually expanded upon during development and post-launch. By launch it is expected that there will be at least 20 different held weapons.

*Pneumatic Knife

Looks like a regular hunting knife, but the handle contains a canister of compressed air, which is emptied through the tip of the blade upon stabbing something. This has the effect of violently "exploding" the internal organs of whatever the knife is driven into, killing it almost instantly. The knife can be reloaded using refills obtained from the appropriate ammo box, and when empty, functions like a regular knife. Both the fire button and the melee key serve the same purpose when the knife is selected. Throwing the knife with the drop/throw key can also deal damage.

*Mauser HK51 "HandKanone"

The HandKanone is an incredibly powerful sidearm, with a 5 round rotary drum chambered in .50AE XL. Its damage is as high as its recoil, shattering crab shell and wrist bones alike.

Armalite AR99

The AR99 became the standard issue assault rifle to most earth defence forces at the turn of the century. Designed mostly for urban use, it is a small and compact rifle with a high rate of fire and large ammo capacity. It fires 4.51x12mm caseless ammunition from a 56 round double-stacked magazine positioned in a bullpup configuration. Due to the light weight of the gun, constructed mostly from polymers, recoil becomes less controllable as ammo is emptied from the magazine. It can devastate lightly armoured targets, peppering them with many small rounds with a moderate penetration power. The small bullet decelerates significantly faster than other rounds, and damage drops off slightly at range. It has an attachment for a flashlight.

*Mossberg SG2243

An insanely powerful and relatively compact shotgun, the 2243 fires 10 gauge ammunition of numerous types, including slugs, shot, explosive rounds, and flechettes. The gun has two ammo tubes that can be loaded separately with different types of ammo, and the fire selector controls which tube is used. The tubes can be changed out entirely or partially refilled when reloading. Slug rounds travel the farthest and do the most damage of all rounds, but don't have a high penetration. Shot can tear apart smaller crabs but has less effect on larger crabs. Explosive rounds both hurt and stun even the most armoured of crabs. Flechettes have a much the higher damage potential than regular shot but do less internal damage. Using flechettes to target vital organs can prove an effective means of taking down larger crabs.

*Izhmash PP110 "Drobilka"

A man-portable heavy machine gun, the single barrel, gas operated Drobilka, fires a 14.5×114mm round at an astonishing 2100 RPM. This round is able to go through one end of a drone crab and out the other, and is capable of penetrating the front plate of a bullcrab when fired facing it directly. If used next to an ammo crate, it can draw from an ammo chain connected directly to the crate. Otherwise, it uses a 250 round box magazine. Due to the high fire-rate and massive round the gun uses, the barrel overheats very quickly. When the gun gets hot the fire rate lowers, and if it gets too hot it will risk jamming and have to be cleared. Continuing to fire after this point risks bursting the barrel, and this will render the gun inoperable until the barrel is changed. Overheating can be prevented by changing the barrel regularly. Each Drobilka comes with an extra barrel that can be swapped out using the fire-select key. Extra barrels can be purchased separately.

*Accuracy International LMA01 "David"

An adventure into the applications of a man-portable railgun, the David uses a linear motor to simultaneously destroy some very expensive batteries and accelerate a ferrite slug to supersonic velocities. This is the only handheld firearm that can punch through Gigacrab armour at any angle of incidence, or turn a line of drones into a sticky mess without the use of explosives. Ammo comes bundled in a combination power pack and projectile. The power pack is clipped onto the terminals at the base of the gun, and the projectile is loaded into the muzzle, where it slides down the barrel into the breach. Standing within a few meters of the muzzle in front of the gun when it is fired usually results in a concussion, so don't. Once fired, the power pack is discarded. Wear gloves when operating, as this gun gets very hot.

Hanwha BRR61 "Dragon"

A lightweight unguided anti-armour launcher, the Dragon fires a self-propelled projectile that can use either a HE warhead or a HEAP warhead. The HE creates a large explosion with a high damage radius. The HEAP warhead uses a shaped charge sends a jet of molten copper through its target, with a much smaller damage radius. A Dragon's HEAP rocket will almost always kill a Gigacrab with a direct hit.

Held Items

*Medkit

Medkits can be used to restore humans to full health, or revive someone who is incapacitated. They are consumed upon doing so.

*Flares and Chemlights

Flares and chemlights are used to create light. Players press the fire key to activate them and can then throw them using the throw/drop key, or hold onto them to make light wherever they go. Chemlights aren't as bright as flares but they last longer, and will continue to glow if the player puts them on their belt.

*AP Mines

These are conventional, shrapnel spewing anti-personnel mines. Press the fire key to arm and drop them. No effort needs to be made to disguise their presence, as crabs do not understand what they are, even if they can sense them. When on the ground they are a rigid physics body, and can be moved by external forces provided they don't detonate in the process. If they land face down or if something lands on their top face then they detonate. Mines can be disarmed and recollected by approaching them and pressing the use key on them.

*Remote Explosive

Like mines, the fire key is pressed to place them, and they can be disarmed and recollected.

*Detonator

When placing remote explosives, they are linked to the detonator in your inventory. If there is no detonator in your inventory they are linked to the closest detonator on the map. They are also linked the to blast charge moveable item, if you activate one. Pressing the fire key while holding the detonator will detonate all explosives that are linked to it.

*Laser Marker

The laser marker is used to mark targets for aircraft and mortar launchers. The laser will emit for as long as the fire key is pressed, and if the aircraft has line of sight to where the laser hits, it will fire on that area, or as close to it as it can.

Moveable Items

*Ammo Crate

Ammo crates exist for each gun, and for each type of ammo available for that gun. Each type of ammo crate is visually distinguishable from one another, with different shapes of crate for each gun

and different colours/markings for each ammo type. Their operation is described in Game Physics and Statistics.

*Automated Turrets

Automated Turrets will automatically target and fire at crabs within their line of sight. Multiple types are available, using a subset of the guns already described in the weapons section. They consume ammo, which can be replenished by transferring it from a crate. They can be turned on and off with the use key.

*Mortar Launchers

Mortar Launchers, once placed, can be turned on by pressing the use key. Activating them links them to your laser marker, or if you don't have one, then the closest laser marker on the map. The launchers can also work autonomously. Mortars will take approximately 6-7 seconds to land after being fired, and will not course correct unless the more expensive guided mortars are used. They have an internal magazine of 8 stacked rounds, which can be replenished via mortar ammo crates.

*Blasting Charge

The blasting charge is a 30kg explosive charge that is simply too heavy to move by any other means. Pressing the use key on it will link it to your detonator, or if you don't have one, then the closest detonator on the map. If no detonators are on the map, it will explode after 30 second timer, displayed on the charge, with an audible warning. If this wasn't your intention, just press use on it again and it will cancel it.

Fixed Items

Uplink

A small long range communications system used to contact the various ships in orbit to make purchase orders, and to get your dropship to deliver them. The uplink enables functionality of the buy menu, if it is destroyed, the buy menu ceases to function.

Walls

Walls are a simple fortification that will hold back the crabs for a period of time until they manage to break through them.

Elevator

The main platform elevator in the middle of the base is the means by which players move between the surface and the underground. It has 3 buttons, up, down, and stop.

Gates

Gates are used to get outside and inside the base. Gates can be destroyed like walls.

Solar Array

An array of solar panels connected to a large bank of capacitors that provides power to the base.

Interior Doors

Doors separate rooms underground. They can be destroyed, like walls and gates.

Rock Spires

Large, destructible geological features that litter the island. They can be collapsed with explosives (or a lot of gunfire) to make the approach for crabs more difficult.

Vehicles

Antonov TE700 Kometa

The Kometa is a small, sleek, fast, single-stage-to-orbit spacecraft, capable of VTOL takeoff and landing with its pivoting twin engines. It has space for 8 passengers in the rear compartment and has a descent payload capacity of 5 tonnes. It is a popular choice of transport for small-time mercenary corporations due to its fuel efficiency and reliability. It cannot be flown by players.

*Antonov TE770 Kometa Shturmoviki

The most powerful means of attack in the game, a Kometa refit for ground attack purposes can be ordered through the buy menu, available with either 8 1000lb GPBs, or a nose mounted 20mm rotary cannon and rocket pods. It is AI flown and will do passes across the map. Using a laser marker, players can designate targets for the bombs, or if they order the second variety, it will perform strafing runs on crabs automatically until all of its ammunition is spent, at which point it will return to orbit. Players can still mark targets for it on each pass and it will try to attack them.

*GMC Ground Hog

The ground hog is a light, unarmoured off-road buggy with 3 seats and storage capacity for 2 moveable items. The side and rear passenger seats can also be used to carry moveable items instead of players, so it can seat 1 driver with 4 moveable items, or 3 players with space for 2 moveable items. If all spaces are occupied, players can also stand on and hold onto the side and rear of the roll cage. This is very dangerous though, because if the buggy collides with an object or rolls over, the players holding onto the sides and rear can be thrown off and severely injured or killed. The exposed wheels can be damaged in collisions or from crab attacks, buckling the suspension or bursting the tyres. In either case, driving will become very difficult. Players are still vulnerable while on or in the vehicle, as crabs will stab through the gaps in the roll-cage.

Game Physics and Statistics

With such a short time to churn out a demo, it is unlikely any of these systems will even be touched upon, but they are listed here because they are essential to the image of the complete game.

Movement

Players

Player movements will be inherited from the default setup in UDK, with some additional movement capabilities added (not in the demo) such as the ability to lay prone, crouch and crawl, and mantle low objects. Players will also be knocked down into a ragdoll state if they take heavy damage or experience a high impulse on a collision. While in this state they may take damage from further attacks or collisions. After the ragdoll comes to rest (or is at a low enough speed) it blends into the prone animation, rolling over if necessary, allowing the player to move again.

Held items

Players also have an inventory of held items, represented as a 10-slot list. Held items are things that are carried on your person, such as guns, launchers, grenades, flares, magazines, med kits, mines, explosives, detonators, laser markers, etc. The numbers 1-9-0 on the keyboard correspond to each slot. All held items can be dropped or thrown by pressing or holding the drop/throw key. Pressing the key once quickly will drop the selected item, while holding it will charge up a throw. All dropped and thrown items are physics rigid bodies, and objects thrown hard enough can deal damage. They can be picked up again by pressing the use key while standing over them and looking at them.

Moveable items

Moveable items are things that are too big to be carried on your person, such as ammo crates, turrets, mortar launchers, and the largest of explosive charges. When on the ground they are physics rigid bodies. When looking at a moveable item, a player can either press the use key once to activate its ability, or hold it down to pick it up. When holding a moveable item you cannot shoot, press buttons, or use any other advanced functions or prone until you put it down again. Putting down a moveable item on a vehicle will secure it in the nearest available slot in that vehicle. Moveable items can still be activated while they are sitting in a vehicle.

Vehicles

Air vehicles will follow pre-animated sequences. Wheeled vehicles will behave as rigid physics bodies, able to be pushed and rolled. The vehicle handling will be considerably realistic, with soft suspension, finite traction, with players experiencing wheelspin, oversteer and understeer. It would be possible to do donuts by holding down forwards and a left/right direction. Wheeled vehicles can suffer damage to the engine and wheels, affecting the handling. A vehicle with a destroyed engine can still be sat in, but will not move.

Crabs

Crabs have a similar movement style to the players, but have a faster movement speed and higher jump strength. When a crab dies, it becomes ragdolled, and that ragdoll will continue to register hits and take post-mortem damage until it is de-spawned. Ideally in the final implementation, corpses would not be cleaned up, but rather transferred to an inactive and low-detail state where they consume little to no resources and are able to stay there for the rest of the game.

Combat

Guns

Weapons that fire conventional bullets will do so realistically, at high speeds with detailed ballistic physics. Bullets will drop slightly in flight, and have a possibility of ricocheting off of certain surfaces. Bullets all have a penetration value, a mass, and a velocity.

Gun handling will be detailed and complex, with ammo being managed per magazine rather than drawing from a 'pool' of ammunition every time a gun is reloaded. Each ammo type occupies an inventory slot, with a maximum number of magazines per slot. 4 different guns with ammo would occupy 8 slots. If two of those guns could use the same type of ammo then they would occupy 7 slots.

Pressing the reload button will cycle to the next magazine with the highest amount of the same ammo type.

Reloading a gun that is completely empty will replace the magazine and pull the slide, while reloading a gun that is only partially empty will only replace the magazine.

Pressing use on an ammo crate will fill one of your empty magazines. If none are empty, it will fill the one with the least ammo (excluding the one currently in the gun). To fully refill on ammo, press use multiple times to replenish all empty magazines not in the gun, then press reload to switch to a full magazine, and press use once more.

Pressing use on the crate when all magazines are full will take an extra magazine. Magazines and their ammo can be put back in the crate by selecting them in the inventory and dropping them in the crate.

Explosives

Explosives will be realistically loud and sharp in style. Hollywood style 'soft' fireballs and rumbling noises do not have anywhere near the same satisfying impact as a real explosive. The damage radius for explosions will be greater than the visual effect created, as will the physics force radius. Many small pieces of shrapnel can also be catapulted outwards from an explosion. Programmatically these are identical to bullets, each with a velocity, mass and penetration power. Shrapnel has relatively high mass and low penetration compared to a bullet.

Explosives are all unanimous, with their only statistics being the size of the charge and amount or shrapnel to use. Charge size determines the behaviour of particles and the splash damage. A grenade would have a small charge size and high shrapnel, while an air-dropped GPB would have a very high charge size and lower shrapnel. Some special explosives like shaped charges in rocket warheads or mines would use shrapnel direction and spread angle in order to express how they do their damage.

Crabs & Melee

Archer crabs' projectiles would be represented in a similar fashion to bullets. When they collide with a surface that is not a human, they are able to either stick into it, or bounce off, becoming physics rigid bodies.

Crab melee attacks are all various forms of stabbing. When a crab stabs, it uses the distance to its target to calculate damage. The closer the target was when it was hit the more damage and push force applied. Crabs will choose from a variety of random strike animations, some fast, doing small amounts of damage with a short reach, and some more powerful, with a larger and more obvious buildup that have a higher reach and do more damage.

As a last resort, all player-held items can also be used to perform melee strikes by pressing the melee key, each with their own damage value and reach. For example, hitting a crab with a flare or an empty magazine is not going to do any damage compared to swinging a machine gun over your head by its barrel. Some weapons (like the knife, or guns that have attached bayonets) may be designed for melee use and have a high melee damage value with a swift strike animation.

Artificial Intelligence

Crab Artificial intelligence is very simple to save on resources (as there will be many crabs active at once). They will pathfind to the nearest player or target (walls are also targets) and begin to attack it. Mortars and aircraft will prioritise targeting clusters of crabs, and will not target crabs near players, to avoid hurting them with the splash. Mortars, when working autonomously, can perform semi-accurate lead firing, taking into account whether the projected position of a crab is too close to a player, and several mortars working together will target different areas, so they don't waste ammo on the same targets. AI will have no impact on the level design process other than the appropriate positioning of pathnodes.

Multiplayer

The game is primarily developed for multiplayer, with one main gamemode at launch, which is a cooperative defence against AI controlled enemies. There is no hard limit on how many players it will support up to 64, but recommended game size is between 1-8 players. Every additional player requires more crabs in order to maintain a balanced playfield, or else the game becomes too easy. Too many players and crabs will lead to performance issues. Unofficial modified gamemodes may allow for more than 8 players, but it is not recommended.

Story

C.R.A.B.S., primarily being a multiplayer game, does not follow an overarching storyline that develops with gameplay, but rather plays out in a static timeframe preceded by a backstory.

It is set in 2267, where humanity, now a spacefaring civilisation, has just begun exploring neighbouring solar systems. Earth's environmental scars from centuries of industrialisation and overpopulation have been largely erased, and it has solidified its position as the military, political, and economic centre of humanity. Space travel and exploration is largely dominated by privately owned businesses, and activities beyond the Sol system are usually just as illegal as they are lucrative. Government officials and other parts of upper-class Earth society most often turn a blind eye to these activities if they better serve their self-indulgent pursuits.

One such activity is the illegal mining of sub-surface Roverium gas on a currently unnamed ocean planet in orbit around Epsilon Eridani, a star approximately 3.2 parsecs from Sol. The extraction of Roverium gas itself is entirely legal, but the planet is host to various forms of extra-terrestrial life - one of which is reasonably intelligent, and hasn't taken too kindly to the human presence. Known colloquially as 'crabs', they're described as an enormous sort of insectoid/crustacean hybrid, and they are actively trying to stop the mining by destroying equipment and killing personnel. They live in underwater hives of several thousand and seldom come out of the water unless disturbed by mining activity. The vibrations through the bedrock from tunnel boring cause them to go into frenzy, and they are driven to the surface, where they attack the numerous mining bases. When a base is overrun, the crabs will destroy most equipment and kill any personnel left on the base before returning to the ocean. Bases are usually repaired and restarted instead of being abandoned outright, but are attacked again shortly afterwards.

In order to protect their investments, the mining corporations reaping the planet have enlisted the help of numerous private military firms, varying heavily in price, expertise and equipment. The operatives are dropped onto the bases where they are expected to fortify them and hold off crab attacks with deadly force.

With no shortage of crabs, drill defence becomes a much desired source of employment for small-time mercenary groups, most often blissfully un-aware of just how dangerous the job is. A number of arms merchants have capitalised on these events by setting up shop in orbit of the planet, delivering supplies to the mercenaries. Gameplay follows on from this point, with players taking the role of operatives of one of many private military firms and experiencing the fight firsthand. The defensive situation varies between bases, with some groups being inadequately briefed and/or ill-equipped and getting overrun within a few hours, and others skillfully managing to hold off until the crabs in that area stop attacking.

Story

Level Design

Level Flow

Levels do not have any explicit cerographical or geographical relations between each other, and can be played in any order. Each level represents a different mining base on the surface of the planet, with varying layouts, defensive structures, times of day, and some set in differing biomes in which different sets of crabs are used.

The demo will consist of one level, where the base is situated on one of thousands of small barren islands that are found along the equator of the planet. There can be any number of levels prepared on release, with more added post release.

Community created maps and gamemodes will also be available following launch. The best of these may be added permanently as official content.

Asset Revelation Schedule

This section cannot be adequately done until the first balance passes start being made and appropriate statistics are gathered. As the game does not follow a linear storyboard, asset revelation for weapons and enemy crabs will depend on the prices of equipment, the accumulation speed of funds, and the difficulty and time parameters used when testing gamemode prototypes.