COMMANDER KEEN

INVASION OF THE VORTICONS
EPISODE 1

GAME DESIGN DOCUMENT

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SINGLE PROJECT FOR GAMES

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i. INTRODUCTION: THE HISTORY OF COMMANDER KEEN

Commander Keen originated from a "secret" development project between SoftDisk employees John D. Carmack and Tom Hall, the former of whom had found an effective means of creating smooth scrolling graphics for PC games - though it was at that time only achievable with an EGA video card capable of only 16 colours. The duo kept the technology from their employers, deciding instead to develop the system on their own time, ultimately creating a PC clone of a level from Nintendo's Super Mario Bros. 3 though they replaced the eponymous lead-character with one of fellow SoftDisk employee John Romero's creations, Dangerous Dave. Titled "Dangerous Dave in Copyright Infringement", Romero was impressed enough to pursuade SoftDisk project chief Jay Wilbur to suggest that Carmack and Hall produce a complete port. Impressively, the duo produced a near pixel-perfect clone of Super Mario Bros. 3 within a week and SoftDisk approached Nintendo with the code in the hope of sealing rights to produce a PC version. Nintendo, despite congratulating the team on their successful results, had no interest in the PC market seeing that the console market was not likely to have a downturn for a long time to come and declined to take SoftDisk up on their offer.

Carmack and Hall's luck was to change shortly afterwards as the founder of Apogee Software (one of PC gaming's most prolific publishers), Scott Miller, was introduced to the work of the duo's new independent venture with John Romero - iD Software. With plans to break away from SoftDisk, iD's first break came with a $2,000 advance from Miller to develop Commander Keen - giving birth to a long-lived relationship between the two companies until the release of Doom in 1993 when iD moved to self-publication. The team produced the final build of Commander Keen : Invasion of the Vorticons in under three months, with Carmack, Hall and Romero leaving SoftDisk to dedicate their full time to iD upon completion of the project. The game was released in 1990, published by Apogee with a widely distributed shareware version delivering the entire first episode of the game - Marooned on Mars - to whet the PC gamer's apetites.

The character around which the game revolves is Billy "Blaze" Blackowitz II, the 8-year old nephew of William J "BJ" Blackowitz who was the main character in another of iD's great titles, Wolfenstein 3D. The son of a TV talk-show host, Billy is a child genius harbouring an enormous I.Q. of 314 - apparently an obscure reference to the value of pi. By day, Billy suffers the annoyances of his older brother and younger sister at home, whilst contending with the local bully Mortimer McMire at school. Billy, being the genius he is, has constructed a spaceship in his back-yard from a variety of household items "borrowed" from the house grandly named "The Bean With Bacon Megarocket". By night, Billy dons his brother's Green Bay Packers American football helmet to become "Commander Keen - Defender of the Earth".

In his first adventure, Keen is on an exploratory mission to Mars when a number of parts are stolen from the Bean With Bacon Megarocket, forcing Keen to investigate the planet's surface in search of the parts. As he enters the moonbases dotted about the planet, Keen learns that the components from his ship have been stolen by an Alien race known as the Vorticons - an odd cross-breed of rat and human who once ran the Mars outposts but have recently fallen under some strange controlling power. Keen proceeds to venture through a series of Martian cities, discovering a variety of alien adversaries. To aid him on his way, he discovers a Ray Gun and a pogo stick - allowing him to disable the more aggressive adversaries and jump to extraordinary heights. Eventually, Keen recovers all the parts necessary to repair his ship and returns to Earth only to discover that a Vorticon mother ship is hanging above the planet with its cannons primed to annihilate everything in their path. As Keen begins to formulate a plan, he finds that one of the aliens has stown away aboard the Bean With Bacon Megarocket and decides to adopt him, naming him Spot.

1. HIGH LEVEL OVERVIEW

1.1 FOCUS

Commander Keen: Invasion of the Vorticons will expand upon the much loved PC game of 1990, bringing the title fully up to date with modern graphics and game-play whilst also introducing the title to home-console platforms for the first time. Combining the fun and intensity of the original PC game, new high-definition 3D environments, online achievements and an episodic release structure; Commander Keen will endeavour to capture the hearts of nostalgic mature gamers whilst also introducing the game to a new generation of young gamer.

1.2 THE X

Get Lean... Get Mean... Get Keen!

1.3 MARKETING SHORT

Two decades following the PC classic's release, Commander Keen: Invasion of the Vorticons recreates the universe of the original with a complete 3D high-definition revamp. Commander Keen: Invasion of the Vorticons retains the original's mix of jumping and shooting action in an intense pseudo 2D side-scroller, set to an all-new original soundtrack. Faithful to the original, Commander Keen: Invasion of the Vorticons tells the story of Billy Blaze, 8 year old genius and his alter-ego Commander Keen – Defender of Earth. Donning his brother's football helmet, Keen embarks on a mission to Mars in the Bean with Bacon Megarocket to prevent Earth's invasion by the mysterious Vorticons. Can he succeed – or will it be Goodbye Galaxy? The fate of Earth is in your hands!

1.4 LEAD SKU

Sony Playstation 3

1.5 AGE CLASSIFICATION

E (Everyone)

Titles rated E (Everyone) have content that may be suitable for ages 6 and older. Titles in this category may contain minimal cartoon, fantasy or mild violence and/or infrequent use of mild language.

1.6 GENRE

Pseudo 2-D side scrolling platformer, Action, Adventure, Puzzle, Exploration.

- Pseudo 2-D side scrolling platfomer – played from a classic "2D side" perspective, but presented with full 3D-graphics.

- Action – Take on challenges involving the enemies and the environment.

- Adventure – Discover the Vorticons plans and uncover who is really behind the invasion.

- Puzzle – Navigate mind-boggling mazes, decipher the Standard Galactic Alphabet and make sense of cryptic psychic messages in the effort to derail the Vorticon invasion.

- Exploration – Discover secret passages and items throughout a diverse range of Martian outposts.

1.7 TARGET MARKETS

- Boys, Girls & Families.

- Primary age group: 8 – 36.

IDENTITY 1

Name: Des S
Age: 36
Occupation: Digital Multimedia Designer

"I remember playing Commander Keen when I was a teenager. As a 'PC Person' I never had the experience of a home console, so missed out on crazes like Mario and Sonic the Hedgehog – but when Commander Keen came along, I was hooked. Keen was to the PC what Mario was to the NES and the shareware/episode format was ideal for a teenager with menial pocket-money... you can guess where all my hard saved piggy-bank funds went.

Today, I am more of a dormant gamer – owning a PC and PS3 but generally only purchasing titles I really want to play. I have enjoyed a lot of the recent next-gen 'reboots' that have been released and love the nostalgia of reliving my childhood gaming experiences. Though my 'pocket money' is somewhat more than when I was 16, I prefer to buy most of my games online via PSN or Steam and I especially like the lower costs and convenience of such purchases."

IDENTITY 2

Name: Dominic B
Age: 28
Occupation: Publishing - I.T. Dept. Manager

"When I was 8 years old, my father brought a PC home from work and I was introduced to my first computer game – Commander Keen. I'm not sure it was supposed to be on there but, as it was, it wasn't long before long my father inevitably gained less and less access to the workstation. As an 8 year old kid I can honestly say that Commander Keen was my original gaming hero and I avidly collected every successive title in the series – eager to engage in my hero's latest adventure.

I would regard myself as something of a hardcore gamer these days – I have all the current major consoles, a gaming PC, PSP and DS portable consoles and a healthy retro console collection. Gaming is my primary entertainment medium and although I appreciate the new directions of games today, nothing quite beats the old classics; my friends and I are always returning to our classic console favourites when we get together and we all really enjoy the new remixes of games like New Super Mario Bros Wii."

IDENTITY 3

Name: Jack B
Age: 8
Occupation: N/A

"I like playing games and share a Wii and a Playstation 3 with my two older brothers and two older sisters. I prefer playing the Playstation because the games look really nice, but my mum doesn't like some of the games my oldest brother plays and makes me play the Wii more. My favourite game for the Wii is Mario and I like games where I can be the hero. Some games I don't like because they are too hard to play or have characters that annoy me. My Mum & Dad and Sisters usually get me games for my Birthdays and Christmas."

1.8 UNIQUE SELLING PROPOSITIONS (USP)

• Classic, proven themes with strong leading character.

• Uniquely inspired story with accomplished unconventional wit and broad range of appeal.

• Creation of a new multi-platform IP based on a classic PC Franchise.

• Accessible pick-up and play gaming, with a strong complement of Achievements for greater longevity and depth.

• Episodic release structure allows for single-episode download, or complete series "bundle" downloads.

• Introduces a viable new competitor to the home console, 2D side-scrolling market.

1.9 GAME PILLARS

• Aims to regenerate the original title, exploiting the benefits of modern 3D engines.

• The game should avoid counter-productive digressions from the original.

• Experienced fans should readily recognise the game content and structure, whilst newcomers should find it fresh and appealing. Both groups should find the game challenging and rewarding.

• Above all, the game must be a fitting tribute, extension and continuation of the original title.

1.10 GAMEPLAY ACTIVITY BREAKDOWN

• 70% Action

• 20% Story

• 10% Puzzle

1.11 ADDITIONAL RULES FOR DEVELOPMENT

- The game cannot feature Death - however jolts, scrapes and injuries are permitted.

2. HIGH LEVEL GOALS

2.1 OVERALL AIM

The prime objective of the game is to recover essential parts stolen from the Bean with Bacon Megarocket, whilst attempting to foil the Vorticon plan to invade Earth. This will involve:

- Zone Infiltration – Achieving passage through Vorticon outposts, overcoming the guarding forces which become increasingly challenging with each outpost.

- Cryptography – Collecting editions of the Standard Galactic Alphabet (SGA) in order to decrypt messages and clues found across each of the Zones.

- Lateral Thought – Deciphering clues from obscure messages broadcasted by PsyCast Nodes scattered across the planet. Negotiating complex labyrinths in the later Zones to gain access to the Vorticon centre of operations.

- Exploration – Searching out every nook, cranny and hidden chamber in order to recover the essential parts for the Bean with Bacon Megarocket - as well as other beneficial bonuses.

- Agility, Dexterity, Reflexes – The player must be quick to react and accurate in their jumping and shooting in order to evade the Vorticon forces.

2.2 GAME PROGRESSION

As Zones are completed and PsyCast nodes are utilised, the following rewards are earned:

- New Equipment.

- Access to further Zones/Nodes.

- Parts from the Bean with Bacon Megarocket.

- Bronze PSN Trophies for low-level achievements

- Silver PSN Trophies for medium-level achievements

- Gold PSN Trophies for high-level achievements

- Platinum PSN Trophies for extremely high-level achievements.

2.3 GAME COMPLETION

To complete the game, each of the missing parts must be recovered and returned to the Bean with Bacon Megarocket. When this has been accomplished, the game complete cut scene will play – however the player shall have the option to return to the Zones and Nodes in order to complete the additional goals such as decrypting the SGA. A "100% complete" achievement will be awarded to players who complete all additional goals and acquire all the Trophies.

3. METRICS

3.1 AREAS

- 16 Areas (8 Zones & 8 PsyCast Nodes, spread across the "world map").

[ZONES   ]   PsyCast Node

3.2 CHARACTERS

- 1 playable character (Commander Keen)

3.3 ENEMIES

- 6 enemy types (Yorps, Gargs, Vorticon Robots, Vorticon, Buttler Robots, Clappers)

3.4 EQUIPMENT

- 7 items (Helmet, Watch, Pogo Stick, Raygun, Key cards, SGA Dictionary, Missing ship parts)

3.5 PICKUPS

- 4 pickup types (Cosmo-pop, Stellar soda, Pizza, Teddy bear)

4. PLAYER EQUIPMENT

4.1 BASIC EQUIPMENT

- Helmet.
  [Possessed by default]
  A protective head-garment.

- Watch.
  [Possessed by default]
  Keen's self-built digital watch.

### 4.2 ADVANCED EQUIPMENT

- Pogo Stick.
  [Acquired in Zones/Nodes]
  Used to jump higher.

- Raygun.
    [Acquired in Zones]
    A laser-based weapon.

- Key cards.
    [Acquired in Zones]
    Used to access restricted areas.

- SGA Dictionary.
    [Acquired in Zones]
    Used to decrypt SGA messages

- Missing ship parts.
    [Acquired in Zones]
    Required to complete the game.

5. EQUIPMENT IN DETAIL

Commander Keen begins the game with just two default items, which cannot be de-equipped at any point throughout the game. As Zones and Nodes are explored, additional items crucial to Keen's success can be found.

5.1 INTERGALACTIC CRANIAL HEAD-GLOVE
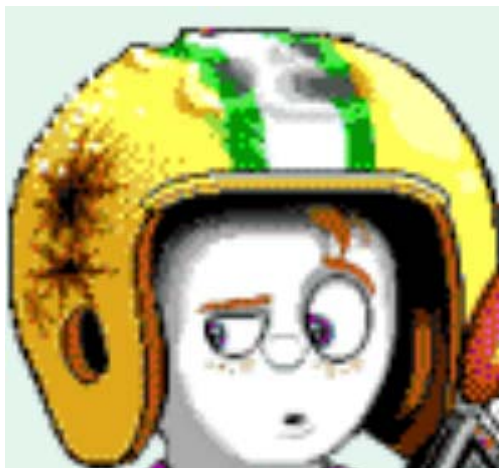
The "Intergalactic Cranial Head-glove" is specifically designed to keep Keen's head safe from heavy-impacts... and looks suspiciously like his brother's football helmet.

5.2 KEEN TEC WATCH 'n' GAME

The Watch 'n' Game is the central hub for all game-options, help information and even a spot of paddle wars to while away the long space-commute.

5.3 POGO STICK

The Pogo stick is a springy bounce-pole that greatly extends Keen's jumping range when used.

5.4 RAYGUN

This powerful Raygun "De-Rezzes" enemies and sends them via GreenMolar™ wireless protocol to a digital holding-cell in the Bean with Bacon Megarocket for catalogue and release at a later date.

5.4 KEY CARDS

There are countless heavily guarded restricted areas throughout the Zones, many containing the parts required to repair the Bean with Bacon Megarocket. Luckily the Vorticons are clumsy types and Key cards to the various coloured doors protecting these areas can be found scattered around the Zones.

5.5 SGA DICTIONARY

Now reading the Standard Galactic Alphabet couldn't be easier! With the 25 part SGA Dictionary Galactica, reading the alien messages throughout the Zones will be a breeze. By collecting each of the books found in the Zones, all alien messages will become readable. Each book will also award 1000 Points when picked up.

5.6 MISSING SHIP PARTS

Without the missing parts to the Bean with Bacon Megarocket, Keen will be stranded on Mars. The items required are:

- **Joystick from brother's console:** Manual flight controls.
- **Car Battery from mum's car:** Electrical Systems Power.
- **Vacuum Cleaner - heavily modified:** Ion Propulsion Unit (with carpet height adjustment).
- **Everclear from Dad's drinks cabinet:** Rocket Fuel.

5.7 PICKUPS
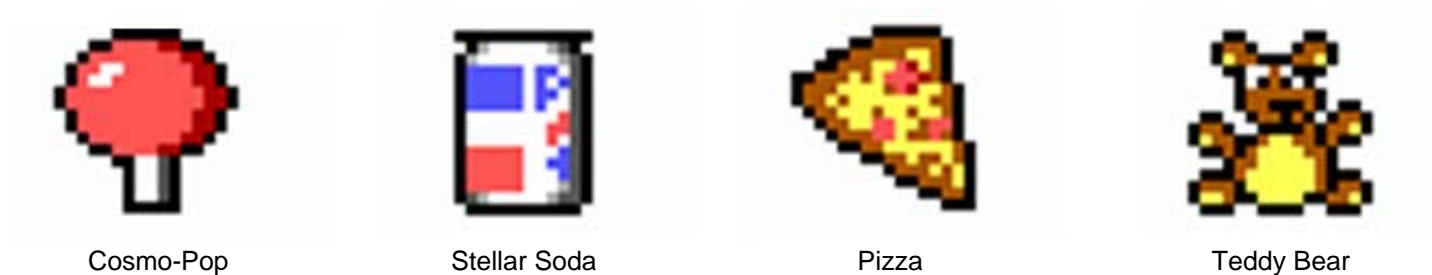
| | | | |
| Cosmo-Pop | Stellar Soda | Pizza | Teddy Bear |

There are a large number of sweets, drinks, food and toys lying around the Zones, despite being tasty and cuddly these items award points when collected. Every 20,000 points reached will provide one extra "De-Rez" for Commander Keen. The points acquired for each item are:

- Cosmo-Pop: 100 Points

- Stellar Soda: 200 Points

- Pizza: 500 Points

- Teddy Bear: 5000 Points

6. CONTROLS

6.1 PS3
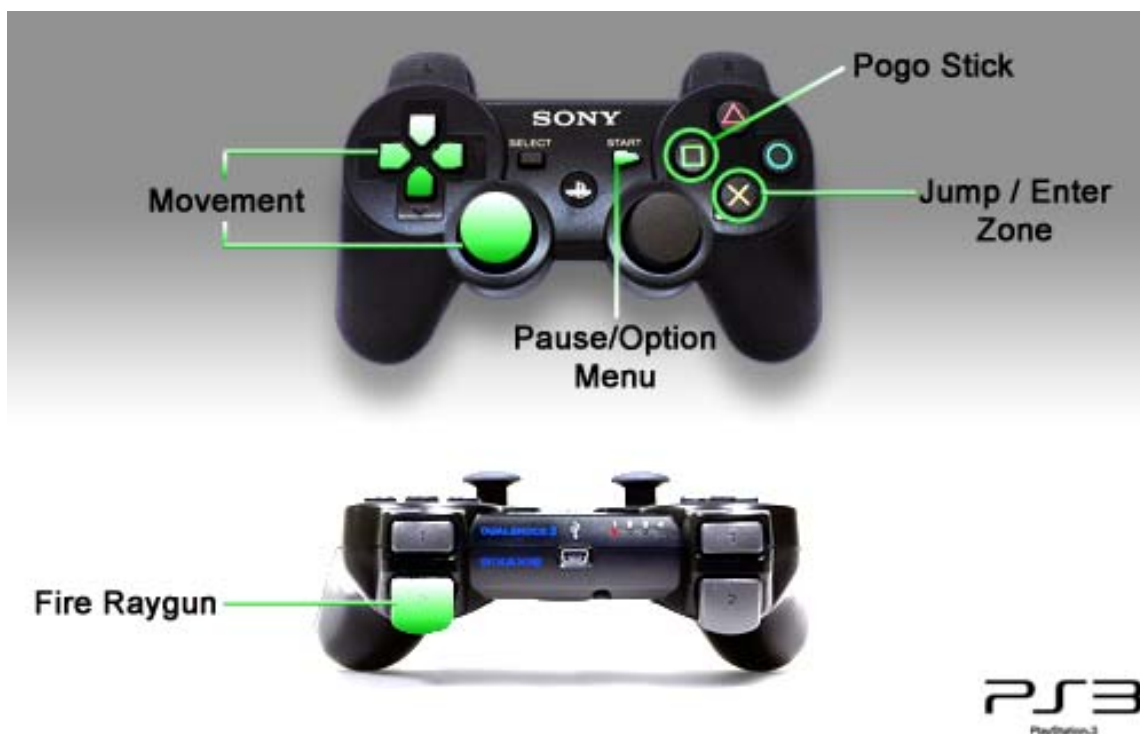
- **[D-Pad] & [Left Analogue]:** Movement (Up, Down, Left, Right).
- **[Cross]:** Jump (In Zone/Node) / Enter Zone (World Map).
- **[Square]:** Activate Pogo Stick.
- **[R2]:** Fire Raygun.
- **[Start]:** Pause/Options Menu.

6.2 PC

- **W, A, S, D:** Movement (Up, Left, Down, Right).
- **Space Bar:** Jump (In Zone/Node) / Enter Zone (World Map).
- **Right Mouse Click:** Activate Pogo Stick.
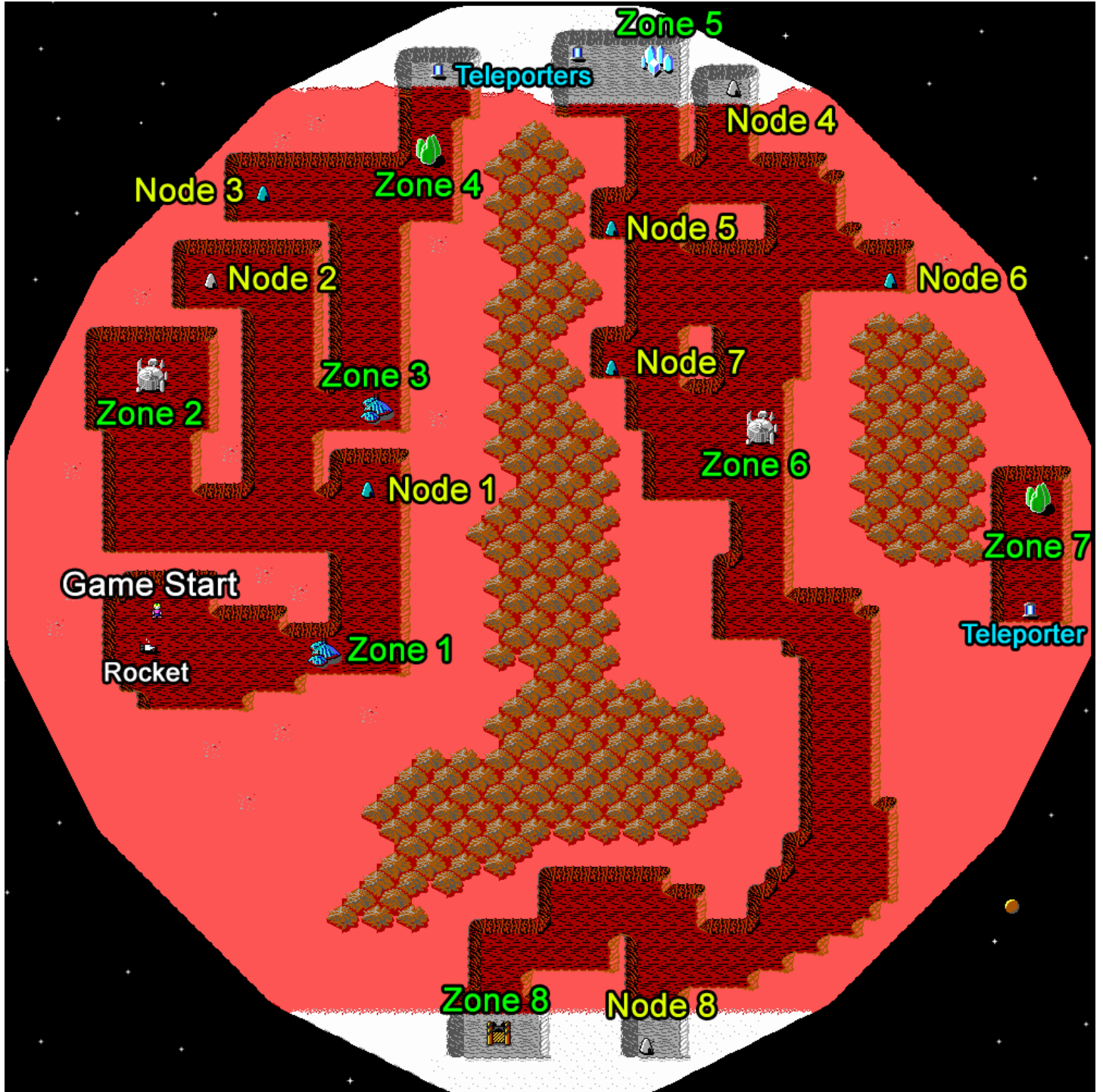- **Left Mouse Click:** Fire Raygun.
- **Escape:** Pause/Option Menu.

6.3 XBOX-360
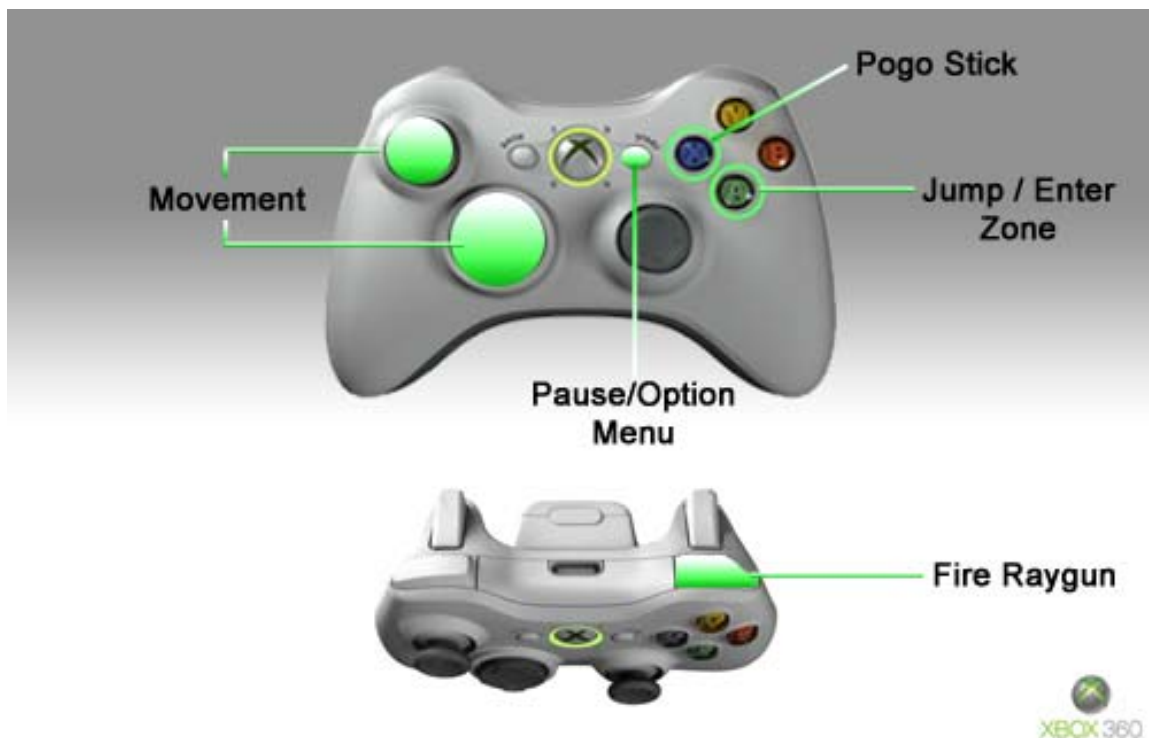
- **[D-Pad- & [Left Stick]:** Movement (Up, Down, Left, Right).
- **[A]:** Jump (In Zone/Node) / Enter Zone (World Map).
- **[X]:** Activate Pogo Stick.
- **[Left Trigger]:** Fire Raygun.
- **[Start]:** Pause/Option Menu.

7. GAME MAP AND UNLOCK STRUCTURE

Trigger	Zones/Nodes Unlocked	Event
Start Game	Zone 1, Rocket (Game Start)	Arrive at World Map
Zone 1 Complete	Zones 2 + 3, Nodes 1 + 2	Return to World Map
Zone 3 Complete	Zone 4, Node 3	Return to World Map
Zone 4 Complete	Zones 5, 6 + 8, Nodes 4, 5, 6, 7 + 8	Return to World Map
Zone 6 Secret exit discovered	Zone 7	Return to World Map via teleporter
Zone 8 Complete + All Spare Parts found	Rocket (Game End)	Game "Complete"
All Zones, Nodes, Additional Goals and Achievements complete	-	Game 100% Complete

8. ACHIEVEMENTS

As the player progresses through the game, online achievements will be awarded for attaining certain goals. There are four levels of achievement available:

- Bronze (For low-level achievements).

- Silver (For medium-level achievements).

- Gold (For high-level achievements).

- Platinum (For extremely high-level achievements).

A chart of Achievements can be found on the following page.

| Achievement Level	Achievement Name	Prerequisites
Bronze	Marooned On Mars!	Visit the Bean With Bacon Megarocket.
Bronze	The Hunt Is On...	Complete Zone 1
Bronze	Zap Happy	Acquire the Raygun
Bronze	SGA Student	Collect 5 SGA Dictionaries
Bronze	Bouncing Back	Acquire the Pogo Stick
Bronze	Halfway House	Complete Zone 4
Bronze	Beam Me Up	Use a Teleporter
Bronze	Bop It!	"Bop" 5 Yorps in one Zone
Bronze	Junk-Food Nibbler	Consume 10,000 points worth of Pops, Soda or Pizza
Bronze	DeRez Trainee	DeRez 5 Enemies
Silver	Bits 'n' Pieces	Acquire 2 Missing Parts for the Bean With Bacon Megarocket
Silver	Housebreaker	Unlock 50% of the doors across all Zones
Silver	... A Cuddly Toy!	Collect 10 Teddy Bears
Silver	SGA Novice	Collect 10 SGA Dictionaries
Silver	Hang Time	Cover 25 ft in one Pogo Bounce
Silver	Slip 'n' Slide	Cover 25 ft sliding on ice
Silver	Icebreaker	Ride a giant ice cube
Silver	Big Bopper	"Bop" 15 Yorps in one Zone
Silver	Junk-Food Gobbler	Consume 50,000 points worth of Pops, Soda or Pizza
Silver	DeRez Dueller	DeRez 15 Enemies
Gold	Rockets Away!	Return all Missing Parts to the Bean With Bacon Megarocket
Gold	Interstellar Locksmith	Unlock 100% of the doors across all Zones
Gold	Teddy Boy	Collect 25 Teddy Bears
Gold	SGA Master	Collect 20 SGA Dictionaries
Gold	High Flyer	Cover 100 ft in one Pogo Bounce
Gold	Slippery Slope	Cover 100 ft sliding on ice
Gold	Chilly Feet	Ride 20 giant ice cubes
Gold	Serial Bopper	"Bop" 30 Yorps in one Zone
Gold	Junk-Food Guzzler	Consume 100,000 points worth of Pops, Soda or Pizza
Gold	Backdoor Dealings	Find the secret exit in Zone 6
Platinum	Speed Freak	Return all Missing Parts to the Bean With Bacon Megarocket within an hour
Platinum	Yorp Herder	Herd 50 Yorps into spike-pits
Platinum	Bear Necessity	Collect 250 Teddy Bears
Platinum	Call me Dr. SGA	Collect all SGA Dictionaries
Platinum	Base Jumper	Cover 250 ft in one Pogo Bounce
Platinum	Skate King	Cover 1000 ft sliding on ice
Platinum	Raygun Slinger	DeRez 100 Enemies
Platinum	Who Needs Spares?	Complete Zones 1-8 without losing a life
Platinum	God Of Gluttony	Consume 500,000 points worth of Pops, Soda or Pizza
Platinum	100% Defender Of Earth!	Complete all Zones, acquire all Achivements and Goals

9. ENEMY A.I.

9.1 YORP
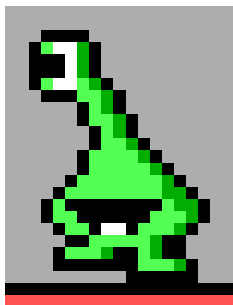
Yorps are relatively friendly creatures that cannot harm Keen, however they can become very annoying as they will jolt Keen away from them with quite a force if he gets too close. They are somewhat slow and dim witted, moving towards Keen wherever he goes even if it means plummeting off platforms or falling down pits.

The Yorps can be temporarily disabled by jumping on their heads or "DeRezzed" with a single Raygun shot.

9.2 GARG
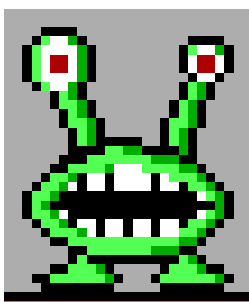
The Garg is one of the most deadly Mars inhabitants, charging down Keen on sight at great speed and DeRezzing him with a single touch. Gargs will attack even if it means falling off platforms or down pits and can also be DeRezzed with one Raygun shot.

9.3 VORTICON ROBOT
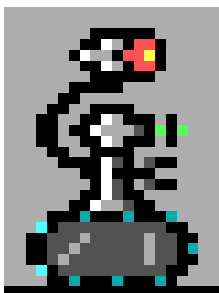
These heavy Robots fire green lasers and are lethal to the touch, however they always follow a set pattern of movement along a short path making them relatively easy to avoid. Vorticon Robots cannot be DeRezzed.
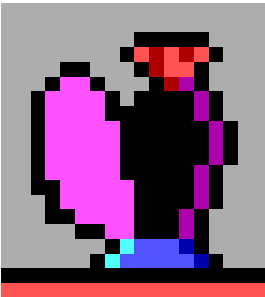
9.4 VORTICON
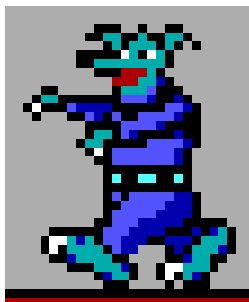
The Vorticon invasion forces are by far the most dangerous creatures on Mars. An odd Rat-like race, they are exceedingly agile and intelligent enough to navigate platforms and avoid hazards. They will launch themselves towards Keen on site and hunt him down once spotted. Vorticons can be DeRezzed if hit with 4 Raygun beams.

9.5 BUTTLER ROBOTS
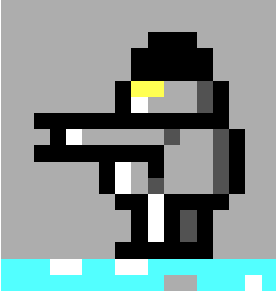
Tedious little tin-cans – Buttler Robots – act almost identically to Yorps; however Buttlers cannot be DeRezzed and can only move left and right over flat surfaces. They do not succumb to hazards or fall off platforms and can move very quickly, jolting Keen away from them with considerable force on contact.
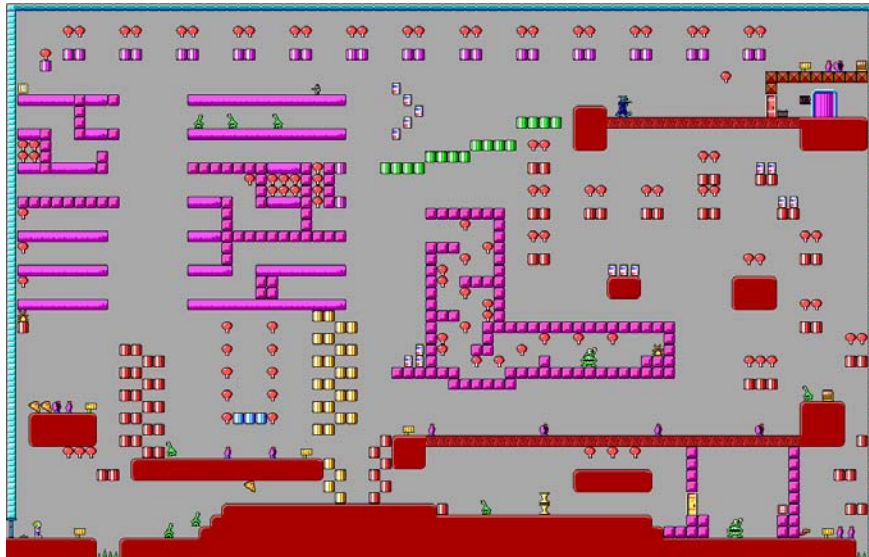
9.6 CLAPPERS

Clappers are an odd natural entity, akin to a strange cross between a clam and seaweed. The Vorticons cultivate them for their energy-generating properties, the production of which releases a rather nasty radioactive field as a bi-product. As they are plants they cannot move, however Keen will be immediately DeRezzed if he touches them. Clappers are immune to DeRezzing.

10. ENVIRONMENTS.

There are 5 main types of environment across the Zones and Nodes:

10.1 ZONES 1-3 – SPACEDOCKS

The Space docks are filled with supply containers for the Invasion and are mainly inhabited by Yorps, Gargs and Clappers. There are a few Buttler robots patrolling the warhouse and a Vorticon guard overseeing operations. These Zones are industrial and functional, sculpted around the very rock of Mars itself – shaping the red stone into solid platforms within the structures. Hazardous perimeter defences are predominantly Spike Pits.

10.2 ZONE 4 – ARBORETUM
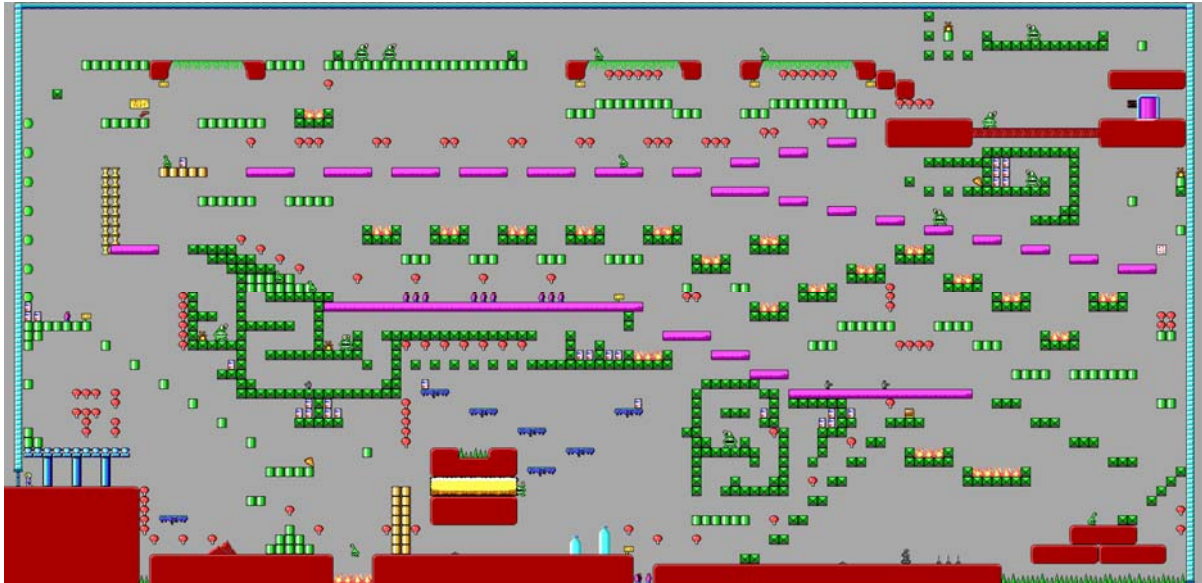
Even Vorticons need Oxygen and they acquire it through a huge, highly advanced arboretum filled to the brim with Viscilia Vorticai; a luminescent moss like plant with long hanging tendrils. Though the plant is entirely non-harmful to Keen, it is very sticky and will hamper Keen's running and jumping capabilities.

As well as being an oxygen source, these plants are the primary food for Yorps and Gargs – meaning the Arboretum is usually full of the creatures. As an important asset to the Invasion, the Arboretum is defended by a Vorticon Robot and multiple fire/spike pits.

10.3 ZONES 5 & 8 – POLAR FORTRESSES
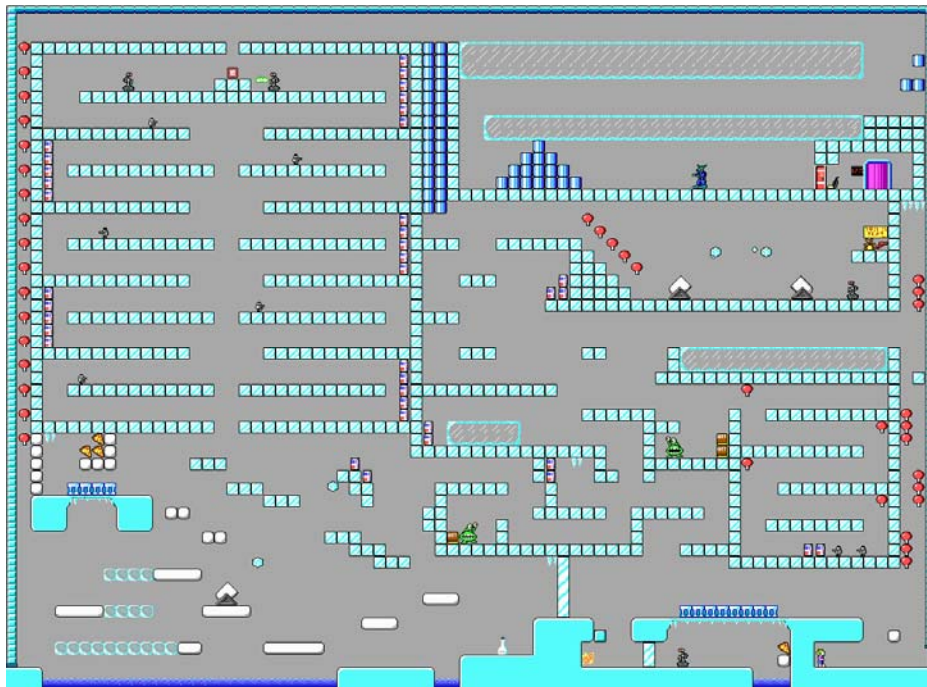
In an effort to source pure water, Polar Fortresses with deep subterranean mines are located on the Northern and Southern poles of the planet. In hugely freezing conditions, most platforms are so icy that Keen slips and slides across them – unable to achieve a complete stop unless

colliding with an object. Huge cannons are positioned throughout the Zones, firing enormous blocks of Ice to the surface for defrosting. Water pits in the caves are critically cold and will DeRez Keen on contact. As water is so vital, these Zones are heavily guarded by Gargs, Vorticon Robots and Vorticons.

10.4 ZONES 6 & 7 – VORTICON LABYRINTHS

The Vorticons discovered these ancient Martian caves, hewn deep in the red rock when first arriving on the planet. Finding them ideal as an interior defence perimeter, they have banished the most unruly Gargs to the dank labyrinths and blocked exits with multiple locked doors. Who knows what secrets the caves may contain?

10.5 PSYCAST NODES
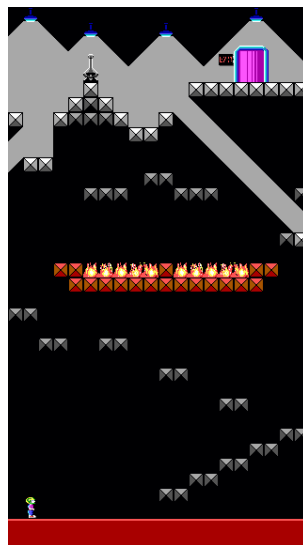
The Mars landscape is covered with odd, conical buildings constructed of a strangely organic looking mineral that emits an eerie blue glow towards the tip. The buildings are

near pitch-black inside and each feature a statue of either a Yorp or a Garg carved from the same mineral as the building itself. The statues emit an almost phosphorous glow at the tips and each time Keen touches one, he receives an obscure message in his mind. Most light in these buildings comes from fire pits and they are occasionally occupied by Gargs and Yorps.
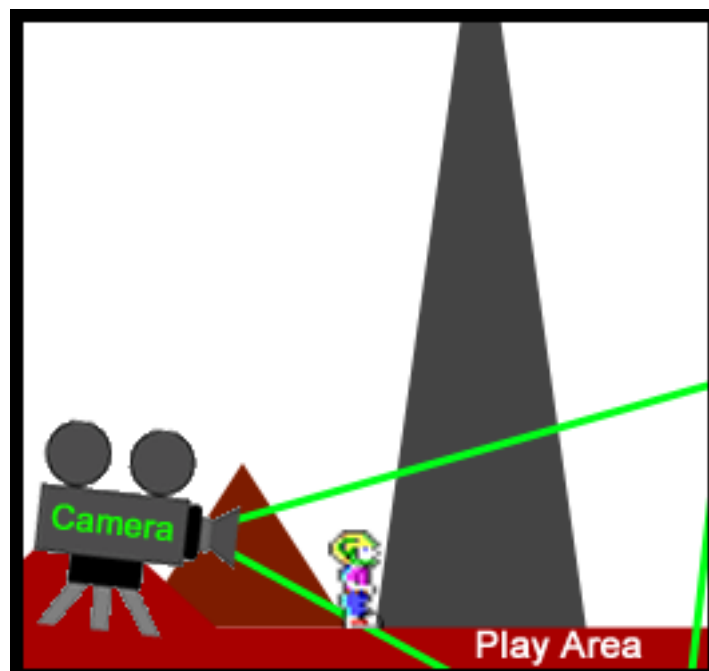
11. IN-GAME CAMERAS

There will be three main in-game camera views:

- Z-Axis top-down [World Map].
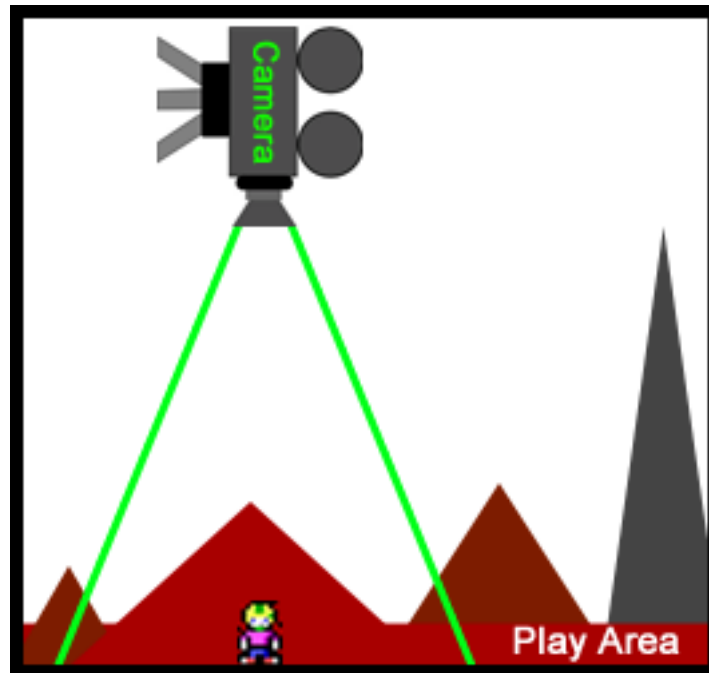
When exploring the Mars landscape between Zones & Nodes, the camera will be in a locked position tracking the player from above, facing down on the play area along the Z-Axis.

- X-Axis over-the-shoulder 3PP [Transition when entering Zones/Nodes].

When a Zone or Node is reached, the camera will pan down along the Z-Axis and rotate to face along the X-Axis, presenting a 3rd-person over-the-shoulder view. Upon entering a Zone/Node, the camera will fade out – flipping 180 degrees on the X-Axis to face the doorway being entered and fading back in as Keen passes through the door.

- Y-Axis classic side-scroller [Transition once Zones/Nodes are entered].
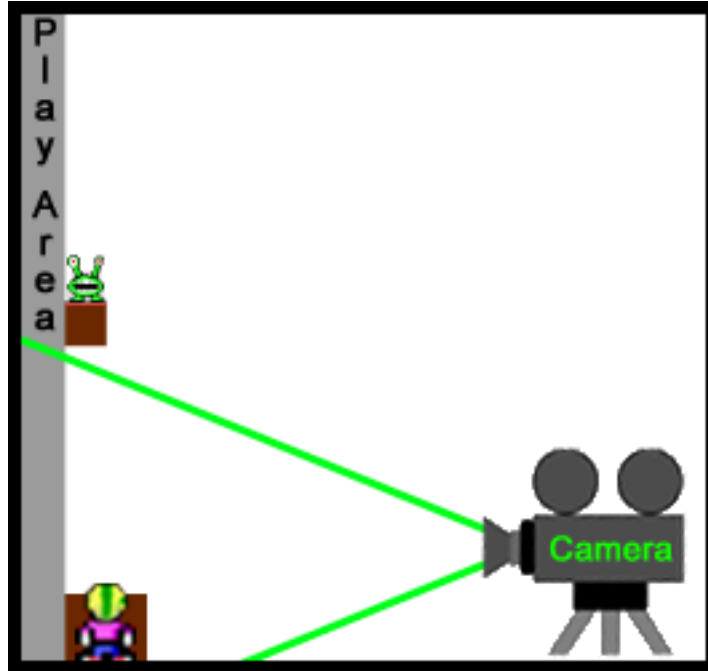
Once inside a Zone/Node, the camera will pan out and rotate – locking position to look along the Y-Axis, then tracking the player to present a classic 2D side-scroller perspective. The majority of the game will be viewed from this perspective.

12. GUI OVERVIEW
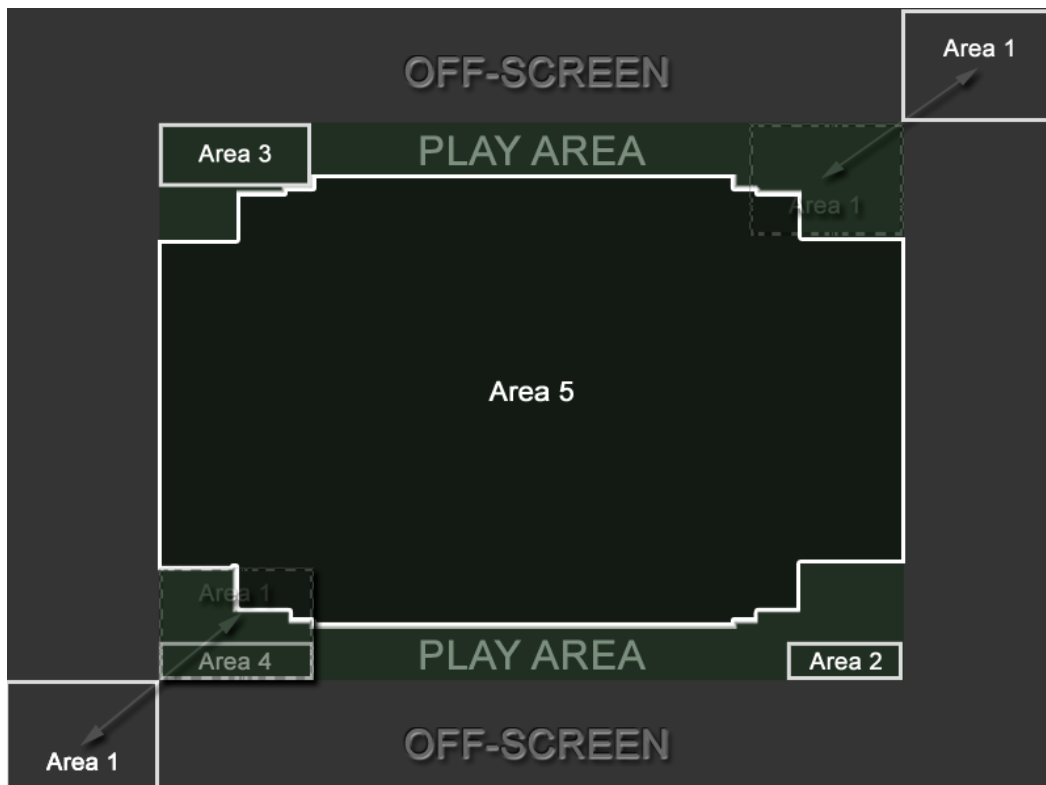
- Area 1: Main Panel
  The Main Panel is in two pieces residing off-screen, panning diagonally onto the screen to occupy the bottom-left and top-right corners; delivering story-shorts, hints, PsyCast messages and item notifications when triggered. Once the information has been relayed, the panel slides back to its initial position off-screen.

- Area 2: Score
  The score-counter resides in the bottom-right corner of the screen and sits on top of the Play Area, but beneath Areas 1 & 5.

- Area 3: Pickups
  This counter logs the number of Cosmo-Pops, Stellar Sodas and Pizzas collected throughout the game. It rests in the top-left corner of the screen on top of the Play Area, but beneath Areas 1 & 5

- Area 4: Equipment
  The Equipment is located in the bottom-left corner of the screen and updates to display equipment picked up throughout the game i.e. Raygun, Pogo Stick. Each item of equipment will only display if possessed. If an item is in use, the icon of that item will be at 100% opacity, if not it will drop to 50% opacity. The Equipment display sits on top of the play area, but beneath Areas 1 % 5.

- Area 5: Menu
  The Pause/Options Menu [Keen-Tec Watch 'n' Game] displays when [Start] is pressed, before which it is non-visible. When triggered, the game camera will pan to the X-Axis over-the-shoulder 3PP perspective and zoom in to Keen's watch – displaying the Options list on the watch screen. When dismissed, the game camera shall reverse the previous path taken and pan back to its initial Z or Y-Axis positions (dependent on whether Keen is in a Zone/Node or on the World Map.) The Menu Area sits above all other areas when called, casting a 50% black overlay over all layers beneath.

13. SAVE FILE

A maximum of 20 saved game files will be supported, however the player will only be permitted to save or load files when on the World Map (unless loading a file from the Front-End Main Menu.

14. CONTENTIOUS ISSUES

- Alcohol featured as a Missing Ship Part [ESRB Rating].

- Mild Peril [ESRB Rating].

- Capturing enemies and keeping them in the rocket-ship's computer.

- Shooting at enemies in general [ESRB Rating].

15. REJECTED IDEAS

A more rigid following of the original game was initially considered, however as this reboot is aiming for an ESRB rating of E (Everyone, 5+), several issues in particular arose:

- Keen's Death – as this title cannot depict death, the concept of "DeRezzing" was devised. This idea solves two obvious issues associated with the game

  #1 – How can Keen survive on the surface of Mars wearing nothing but a T-Shirt, Jeans and a Football Helmet?

  #2 – The aforementioned issue of Death.

  When Keen arrives on Mars, he enters the "DeRez" chamber located to the rear of the Bean with Bacon Megarocket. This ingenious device scans Keen and breaks his physiology down (much like Flynn in Disney's Sci-Fi Movie Tron) into a low-resolution, 8-Bit stylised holographic model made up of blocks, projecting them via GreenMolar™ wireless protocol to the outside of the ship. As a result, when Keen is overwhelmed his "8-Bit" style holographic projection is disrupted – exploding into its constituent "blocks" across all three axes. As the Bean with Bacon Megarocket is running on emergency backup power, Keen starts his mission with only just enough power for 3 DeRez projections. However, every "1-Up" gained throughout the game will add an extra DeRez projection.

- Shoot to kill – in the original game, the Raygun was a damaging weapon which would effectively "kill" enemies when shot by the player. This issue can be avoided by extending the DeRez concept to cover the Raygun's functionality; whereby enemies shot will appear to "drop resolution" to an 8-bit stylised model before each individual block of the DeRezzed enemy explodes across all three Axes (sending the enemy to a digital storage device within the Bean With Bacon Megarocket via GreenMolar™ wireless protocol).

  Once DeRezzed, the captured enemies can be reviewed via the Pause / Options Menu or by returning to the Bean with Bacon Megarocket. The endgame cut scene will show Commander Keen releasing the captured enemies to the Vorticon Labyrinths (via wireless) before taking off. However as he straps himself into his flight-seat, a Yorp is seen in the rear-cabin poking at the Raygun. As Keen breaks orbit the Yorp accidentally zaps himself, becoming a stowaway within the ship's computer.

Originally, in-game cut scenes were considered for conveying storyline, discoveries and specific encounters. This was removed in favour of the Main Panel system as the additional work required for what would be a relatively small pay-off showed up a lack of efficiency. Additionally, as the game aims to attain zero load-time in-between Zones/Nodes/World map, frequent cut scenes would have a greatly adverse effect on this target. Instead, the game shall only feature cinematic cut-scenes at the beginning and end of the game, with all other aspects of story etc. being handled within the Main Panel system.
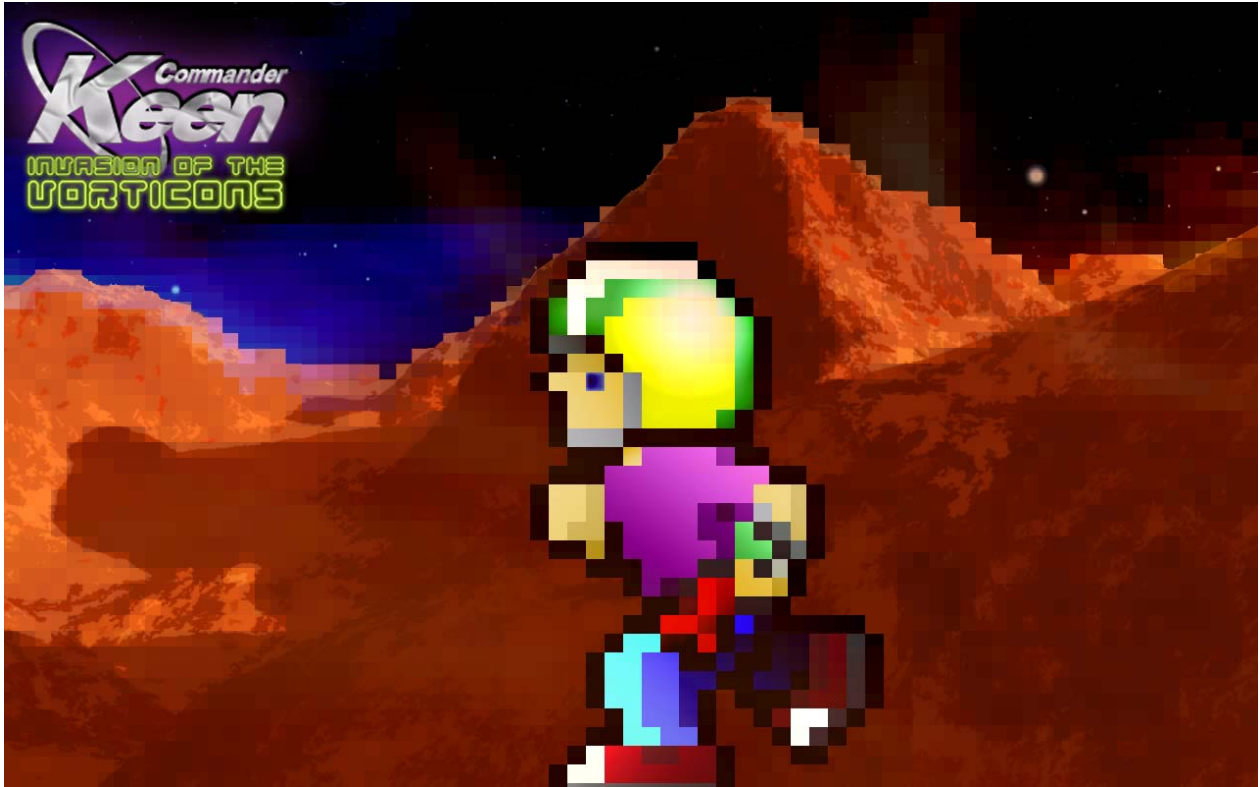
16. PRE-ALPHA / CONCEPT IMAGES

First-draught Keen concept.

Following the "Super-Deformed" style often referred to as "Chibi", this concept was rejected due to concerns over alienating fans of the original title.


Final Keen concept.
Chosen for the balance between the contemporary nature of the design and the retention of a readily identifiable image for long-term fans.
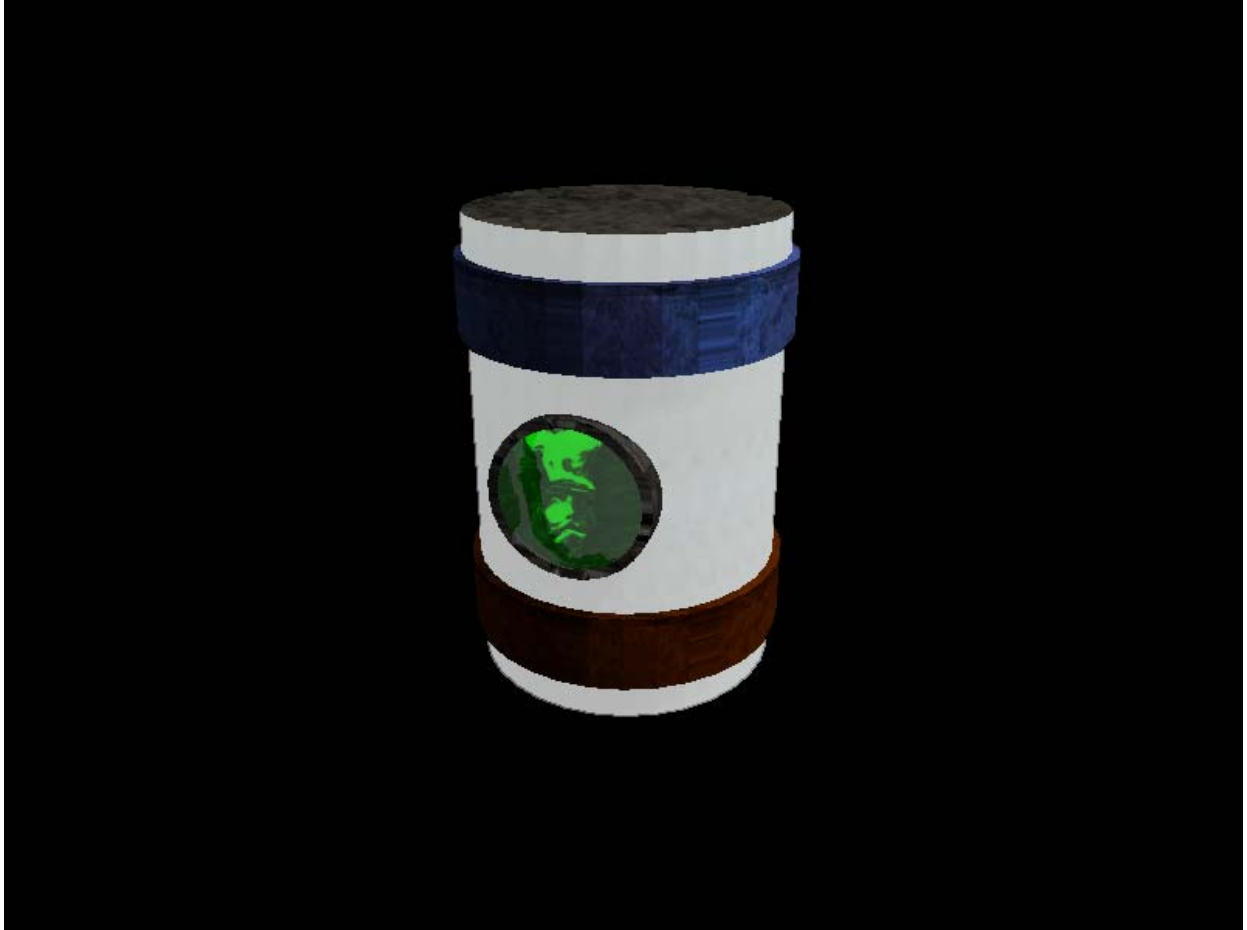
"DeRezzed" Keen

The DeRezzed, 8-Bit stylised Keen hologram used to traverse the Mars landscape - the model for which shall be built from cube primitives that facilitate the "Pixel Explosion" effect when Keen is overwhelmed.
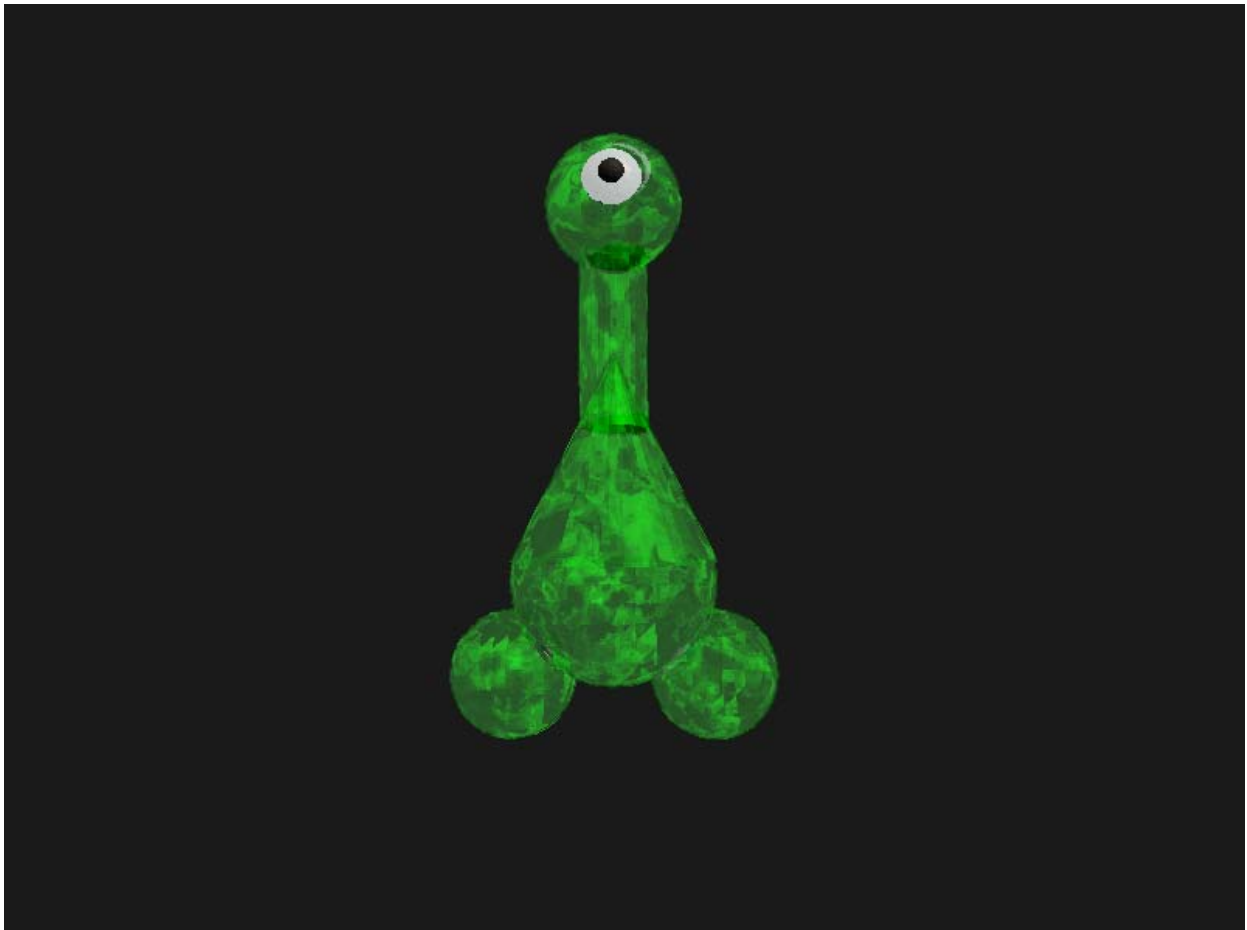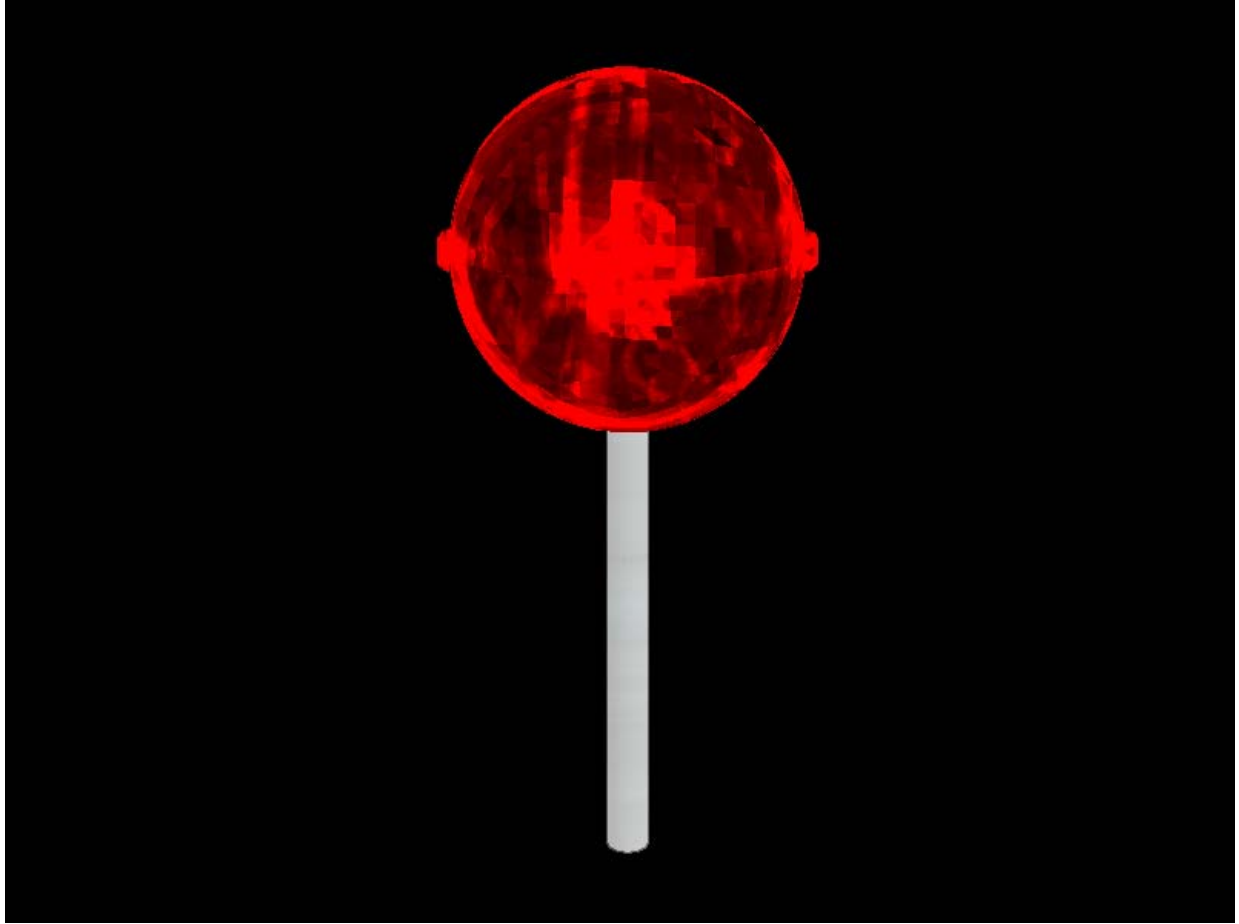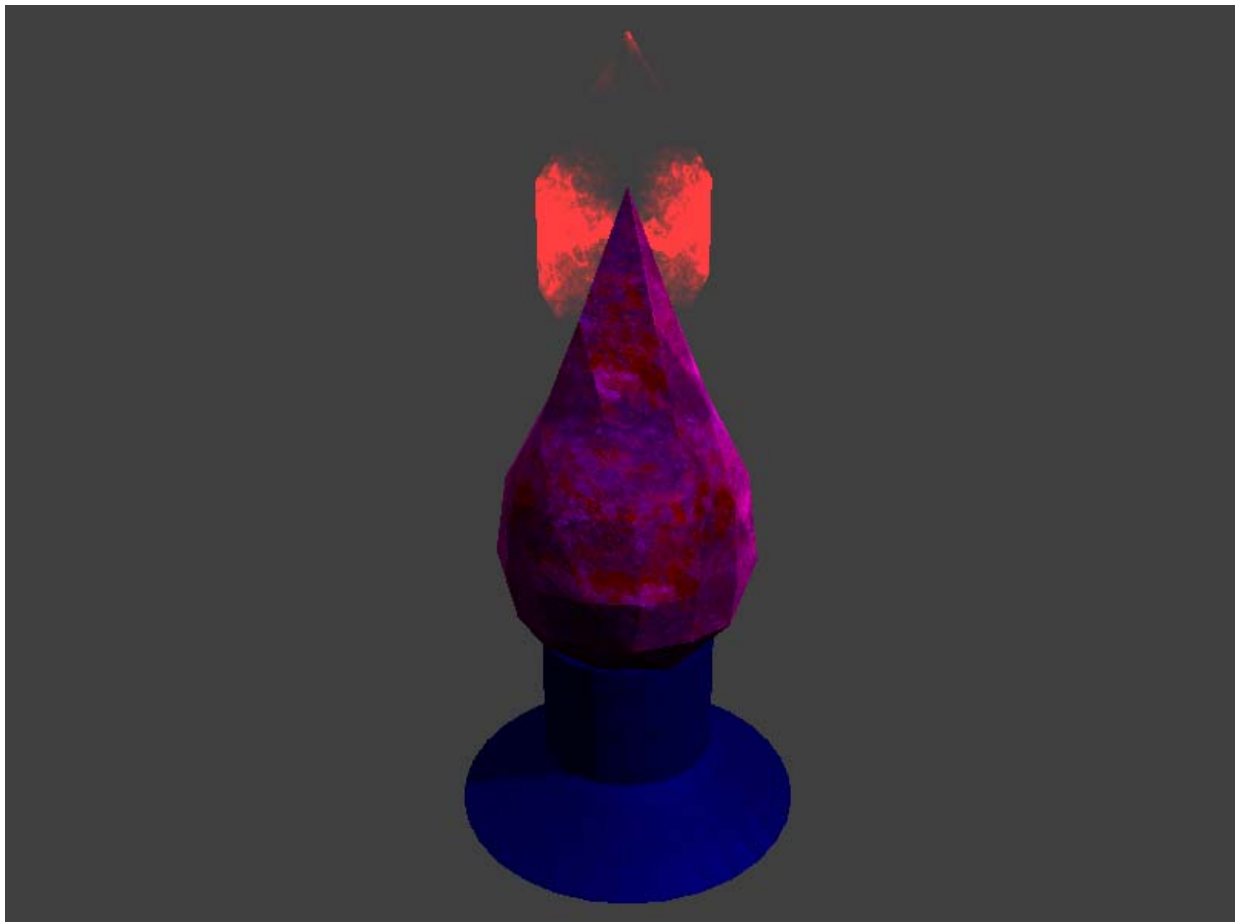

Yorp
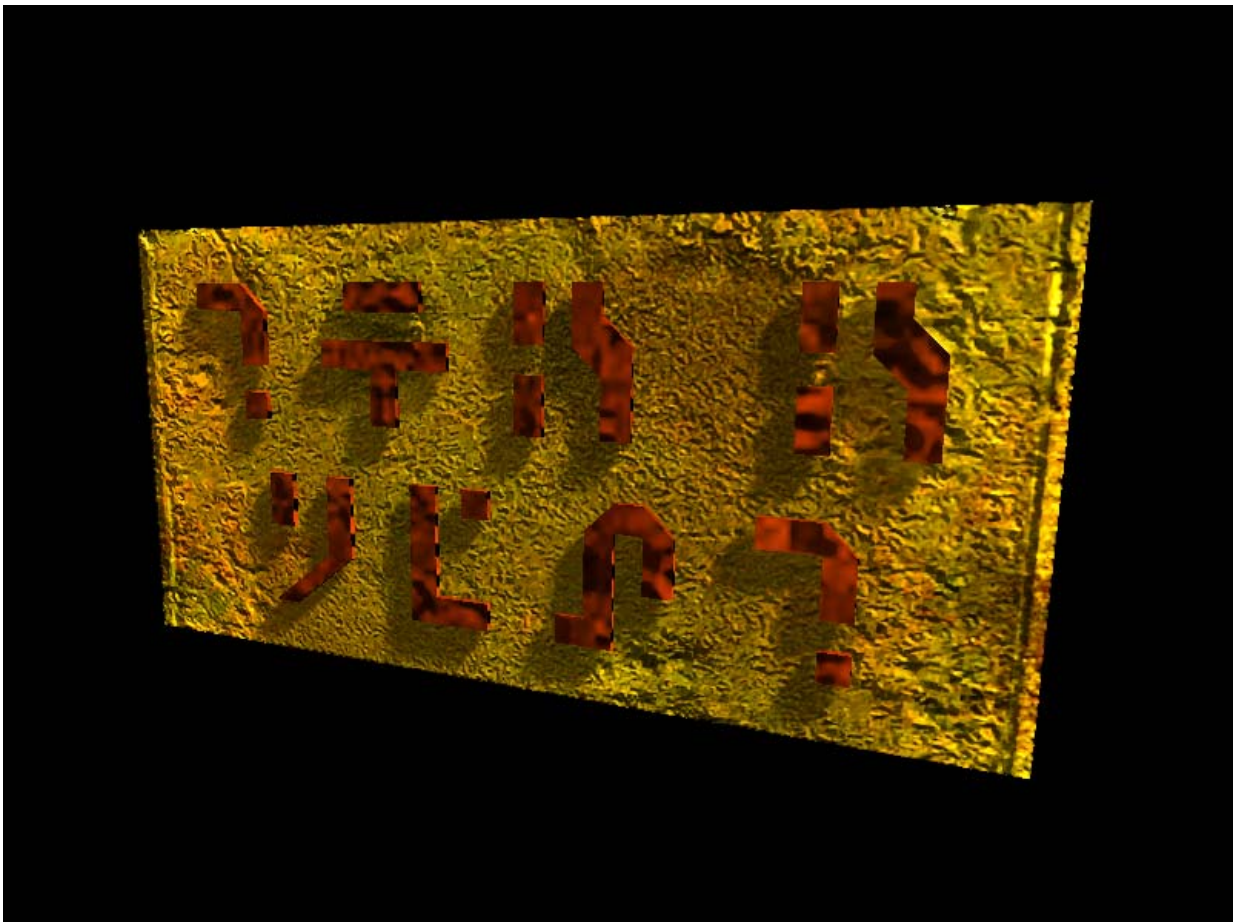
Stellar Soda Can

Raygun

Cosmo-Pop

Clapper
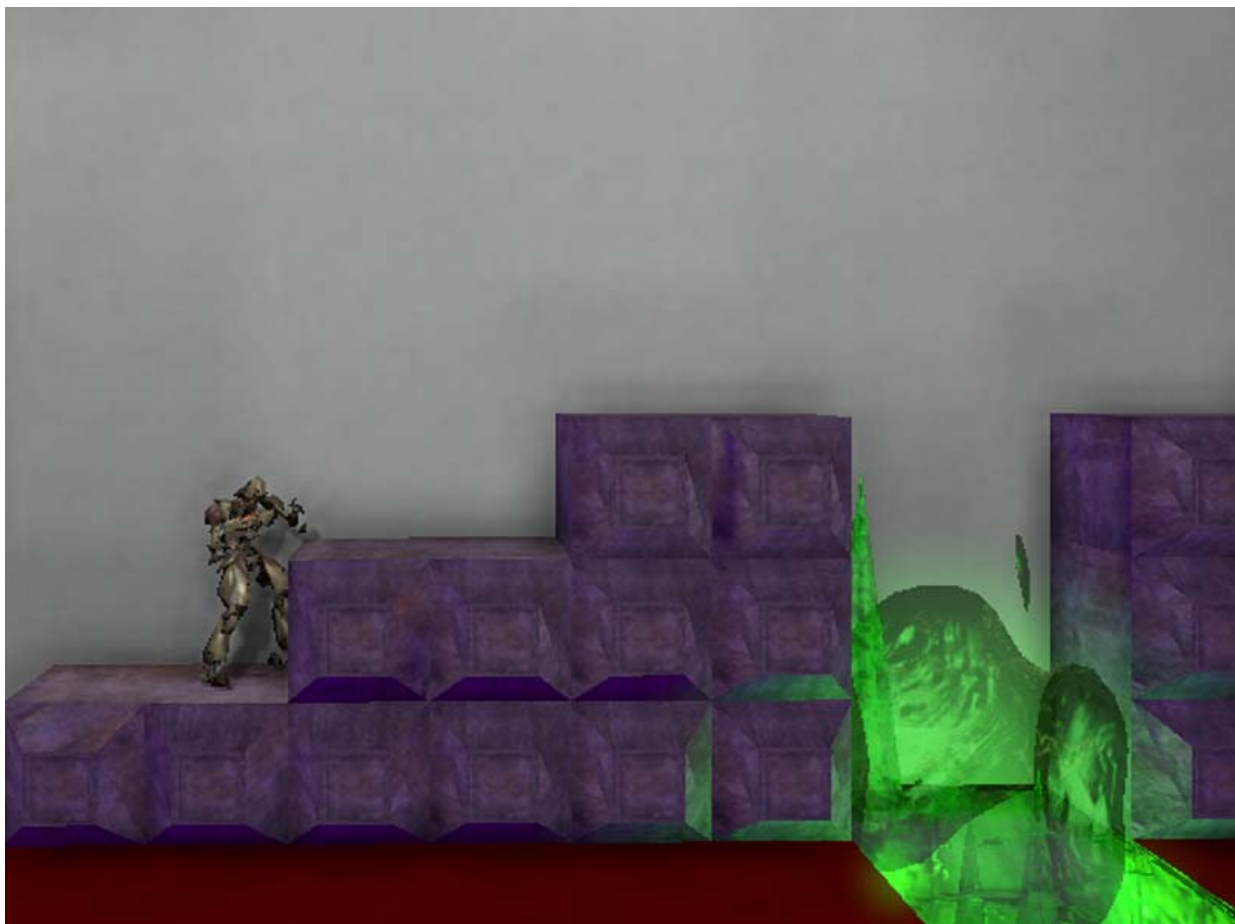
SGA Dictionary

SGA Signage

POC – Zone 1, Entrance.

POC – Zone 1, looking out over the Martian landscape.

POC – Zone 1, Raygun

POC – Zone 1, Spike Pit

POC – Zone 1, Searching for a SGA Dictionary whilst avoiding Clappers

POC – Zone 1, Exit.

17. CREDITS

Commander Keen – Invasion of the Vorticons: Episode 1 Marooned on Mars (Original Game)
©1990-2010 id Software. All rights reserved.
http://www.idsoftware.com

Commander Keen (Original Character, Story and Concepts)
©1990-2010 Tom Hall. All rights reserved.
http://tomtomtom.wordpress.com/

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18. DEVELOPMENT JOURNAL LINK

The development journal for this project can be found online at:

http://kame.phluidrecords.co.uk/sigma