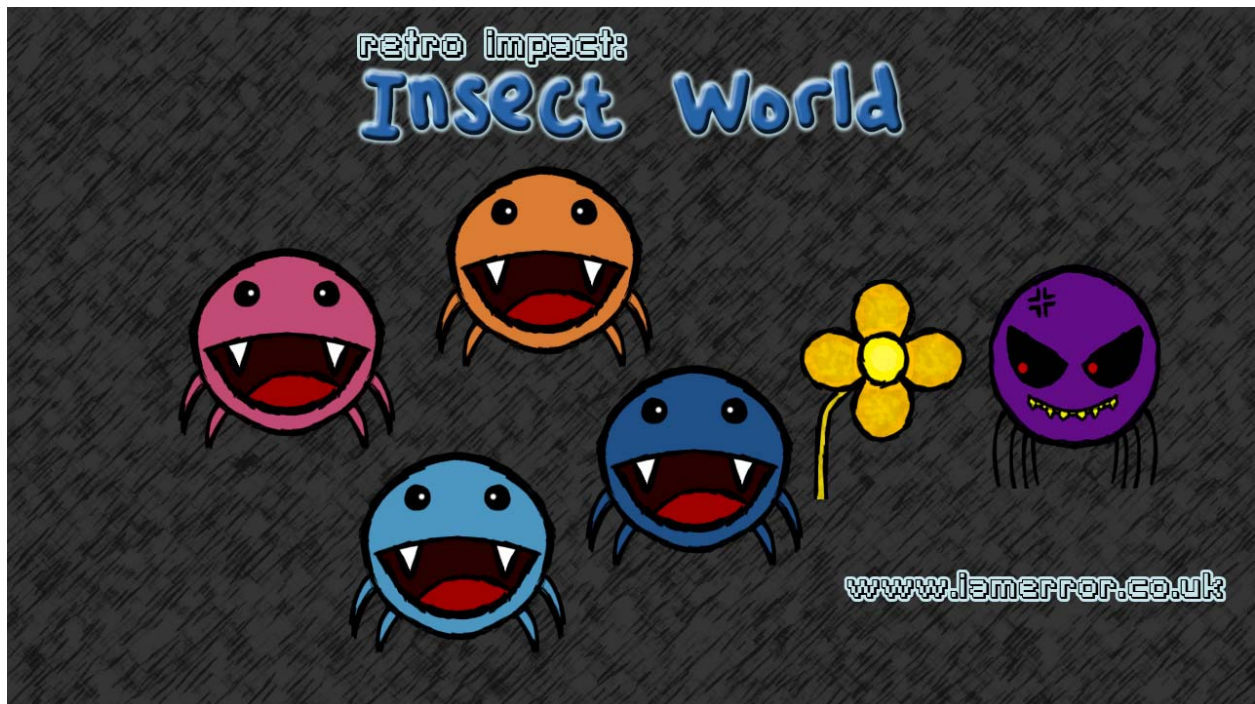


## Retro Impact: Insect World Design Documentation



*A downloadable PC version of this game is available at [www.iamerror.co.uk](http://www.iamerror.co.uk)*

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## 2 Game Concept

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### 2.1 Introduction

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Retro Impact: Insect World is an easy to understand arcade style game with both multiplayer and single player functionality, designed for digital distribution on all platforms.

### 2.2 Genre

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Retro Impact: Insect World is an (ideally multiplayer) arcade game with a collection-based concept similar to Pac Man. This game contains a in a variety of different worlds which keep the gameplay interesting throughout. Multiplayer options are also supported; either through co-operative gameplay through the main mode, or through a selection of minigames.

### 2.3 Platform

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Retro Impact: Insect World is suitable for development on all current gen systems as a digital download via services such as Xbox Live Arcade, Playstation Network, and Wii Ware etc... Since the game is designed for digital distribution, an internet connection is a requirement in order to download the game in the first place, and to access aspects such as Leaderboards.

## 3 Game Mechanics

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### 3.1 Core Gameplay

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#### 3.1.1 Aim

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When in some of the multiplayer modes the main gameplay may change, however the main part of the game "Quest Mode" involves the player(s) collecting all of the flowers contained in a level while avoiding enemies and environmental hazards – all before the timer runs out. After all the flowers have been eaten, the player(s) progresses to the next level.

#### 3.1.2 Objectives

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The main objective in the main game is to clear each level of flowers before the time runs out, however there is bonus points awarded for each second remaining once a level is cleared. These points eventually award the player with extra lives as well as potentially increasing their high score on the Leaderboards.

## 3.2 Modes of Play

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The different gameplay modes available in this game are described below

### 3.2.1 Quest Mode

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As briefly described above, this mode involves the player trying to make their way through the 5 different worlds, each of which contains 3 levels and a boss battle.

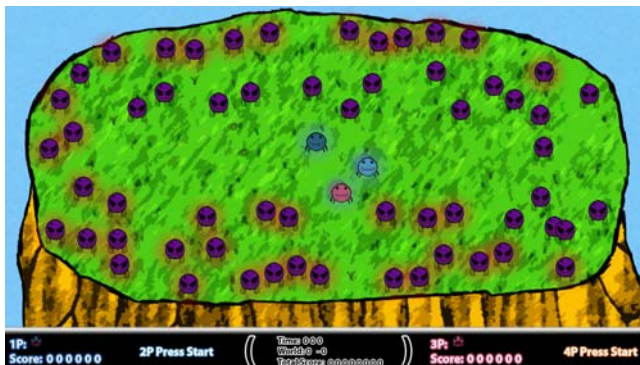
When Playing in multiplayer (up to 4 players are supported), this mode also contains a competitive aspect; all players have an individual score as well as a combined score. Different players may choose to work co-operatively though in order to reach the end of the game with each other's help.



### 3.2.2 Desert Survival Mode (1-4 Players)

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In this mode, the player(s) must collect all of the flowers while surrounded by Desert BadBugs who spit projectiles.



### 3.2.3 Bad Bug Parade (2-4 Players)

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In this mode, a single area is nearly full of BadBugs; it is up to the players to dodge and avoid the BadBugs, to see who can survive the longest.

## 3.3 Rules

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### 3.3.1 General Rules

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- This game has a strict instant death rule – if any enemy, enemy projectile or environmental hazard makes contact with a playable character, this results in the instant subtraction of a life.
- This game does not scroll at all

### 3.3.2 Quest Mode specific

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- Players start with 5 lives each.
- Player(s) are given a fixed amount of time in order to clear a level of all the flowers it contains, if they fail to do this the level restarts and all players lose a life.
- Eating a flower adds 1 second of time back to the timer.
- Levels do not restart when players die; instead the player is respawned at the starting location of that level, with a few seconds of invulnerability.
- Losing all lives results in the game returning to the Leaderboards to post and high scores, then the title screen.
- Each flower eaten awards the player with 10 points.
- Each second remaining when a level is finished awards the player with 1 bonus point.
- Each time the player's score reaches a multiple of 1000 they are awarded with an extra life.

### 3.4 Game Flow

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*A demonstration video can be found on the website [www.iamerror.co.uk](http://www.iamerror.co.uk), along with the download of this game. The example is based on a 2 player gameplay situation on world 2-2.*






As the level begins, player 2 decides to take the right hand side of the screen while player 1 will cover the left. As player 2 cleanly eats their way through their flowers, they get too daring and while moving too close to a BadBug, they get caught in a patch of quick sand. A bad bug spits a projectile at the slow moving player, player 1 uses this opportunity to finish off the flowers from their side and move over to player 2's side once both players realise the timer is reaching 10 seconds. The respawned player 2 is able to dodge multiple projectiles from the bad bugs and grab the last flower just in time.


## 4 Actors

This section details the various different players, items and enemies in the game.

### 4.1 Game Objects


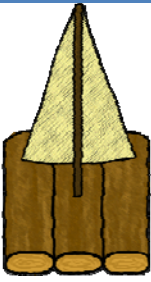
This table details the different player related assets.

Name	Description	Image
Blue Insect	The Insect controlled by Player 1	
Light Blue Insect	The Insect controlled by Player 2	
Pink Insect	The Insect controlled by Player 3	
Orange Insect	The Insect controlled by Player 4	
Glow Objects	The 3 main object groups in the game are identified by an outer glow in order to more easily define whether something or good/bad to the less experienced players  Blue – Player (Good)  Red – Enemy (Bad)  Yellow – Flower (Collectable)	
Flowers	Collecting these is the goal of the game – eating all the flowers in a stage before the timer runs out is the player's aim.  Each world has a different appearance for the flower; however they are all worth the same amount of points when collected.	

Golden Flower	These randomly appear in the Quest mode, when collected they award the player with an extra life.	
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## 4.2 Devices

These devices are generally used in the boss battles

Name	Description	Image
Bad Bug Destroyer	Each time the player collects 15 flowers from the first boss battle and returns them to this tower, it will let out an electric beam which does damage to the boss bug	
Raft	A moving platform which allows the players to access the different islands on World 1-3	
Power Treadmill	<p>On World 5-1, this machine is used to lighten up the level, slowing down all BadBugs in the process</p> <p>On World 5-4 this machine is used to defeat the boss</p> <p>In order to use this machine, the player needs to stand on the treadmill and tap the run button rapidly – this charges the power as indicated on the object itself. Once the player stops tapping the run button, the machine's power levels instantly begin to drop again.</p> <p>A flashing object saying "RUN!" appears on screen when the player is overlapping the conveyer part of this machine, to inform them of the action it requires.</p>	
Switch	<p>On World 4, these switches are used to disable some electricity surges that otherwise block the players path</p> <p>On the Boss stage of World 4, a switch is used to switch on the</p>	

	electricity around the area where a BossBug lurks – electrifying and damaging the BossBug.	
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### 4.3 Environmental Hazards




The following table details the different environmental hazards; each world has a unique theme which causes the gameplay to change in different ways.





Name	World	Description	Image
Quicksand	2	When overlapping this, the player's movement speed is massively reduced. This has the same effect on the BadBugs, but not their spit projectiles.	
Ice	3	The entire floor of each level in World 3 is covered in ice; this causes the players to skid slightly when moving.	
Cracked Ice	3	This ice gradually cracks as players or bad bugs stand on it, eventually it smashes, killing any players who walk on the frozen water it once covered.  After a few seconds, the cracked ice reforms over the water, to prevent problems where players could become trapped, or flowers unreachable.	
Snow	3	Snow disappears bit-by-bit as the player (or BadBug) collides with it; however it also causes the player to momentarily stop – which could allow BadBugs or their projectiles to catch up with them.  The Frozen BadBug projectile (ice cubes) are slowed down when travelling over snow, to keep things fair.	
Conveyer Belt	4	Conveyer belts move the players and BadBugs along their path automatically.	
Electricity Surge	4	Electricity Surges usually turn on and off in a set pattern and blocks the player's path through most of the levels in World 4 and will instantly kill the player if the player walks into it. In order to get past a surge, the player must use careful timing and precise movement.  Some Surges are always on, and require the use of a switch located nearby in the level to be disabled.	
Bomb	4	Bombs can be found on some conveyer belts in World 4;	

		they explode and kill the player on impact.	
Darkness	5	The darkness itself obscures most of the level on World 5-1, making it difficult for the player to see. The Ghost BadBugs are also made faster the darker a room is, so it's in the player's best interest to find a way to brighten up the room to keep these Ghost BadBugs slow.	
Light Bubbles	5	Found on Worlds 5-2 and 5-3, these act as safety bubbles for the player, since the Ghost BadBugs cannot enter the light.	

#### 4.4 Enemies

The enemies found in the game have been detailed below. All enemies kill the player instantly when they touch the player, and cannot be killed. BadBugs cannot walk through flowers, so players can plan their progress through a level to keep certain BadBugs trapped until necessary.

Name	World	Description	Image
Standard BadBug	1	This BadBug randomly walks around, bouncing off of everything it touches	
Desert BadBug	2	This BadBug behaves exactly like the standard BadBug, however it is also able to Spit towards a chosen player at random intervals	
Spit (Projectile)	2	Fired by the Desert BadBug. This fast moving projectile can pass through flowers, but not solid obstacles (cacti/rocks). This Projectile moves in a straight line only – it cannot turn.	

Frozen BadBug	3	<p>This BadBug moves slightly faster than the Standard BadBug, and can lay Ice Cube projectiles.</p> <p>This enemy can pass through frozen water.</p>	
Ice Cube (Projectile)	3	<p>This projectile moves only slightly slower than the player, and instantly chooses a player (when in multiplayer mode) to home in on. This projectile will follow the player until it either eventually melts, collides with the player (causing death), or gets led into an obstacle by the player which causes it to smash.</p> <p>This projectile can pass through flowers and frozen water, but not obstacles.</p> <p>To keep gameplay balanced, a maximum of 3 of these can be onscreen at any time.</p>	
Cyborg BadBug	4	<p>This BadBug bounces around randomly like the others, however it moves even faster than the Frozen BadBug, and very occasionally decides to move towards a player.</p>	
Ghost BadBug	5	<p>This BadBug is fast moving especially in the dark. Every few seconds it makes a random decision to either chase a player, or ignore a player. If a player is being chased, then can run into the light bubbles for safety in some situations since these BadBugs cannot enter light.</p>	
Beam Drone	4	<p>These drones fire a beam of energy outwards at the player if the player walks into their line of sight (shown by a glowing line of light)</p>	

## 4.5 Boss Bugs

These are the boss characters found in Retro Impact; Insect World. For details please see the levels section.

## 4.6 Controls

The control diagram below is for the Xbox 360 controller. In the controls table, optional keyboard/mouse controls are also supported in the PC version.



Action	Button	Description
Move	D-Pad/Left Stick	Moves the player character around the screen.
Run	A	Holding down this button allows the player to move more quickly.
Creep	B	Holding down this button reduces the players speed greatly – good for precision movements.
Pause	Start	Pauses the game.

## 4.7 Actions

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### 4.7.1 Movement

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The player is able to move around with the D-Pad or Analogue stick (this provides 32 directions of movement and is the recommended control method). Certain environmental objects are able to move the player automatically (the raft, or conveyer belts). The player is able to adjust their speed to be slow, medium or fast by holding different buttons while moving.

### 4.7.2 Life Management

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Since this is an arcade style game, the player is killed instantly when they collide with an enemy or projectile. There are bonus lives awarded every time the player's score reaches a multiple of 1000, and there are also Golden Flowers which appear randomly throughout the game; collecting these awards the player with an extra life.

### 4.7.3 AI features

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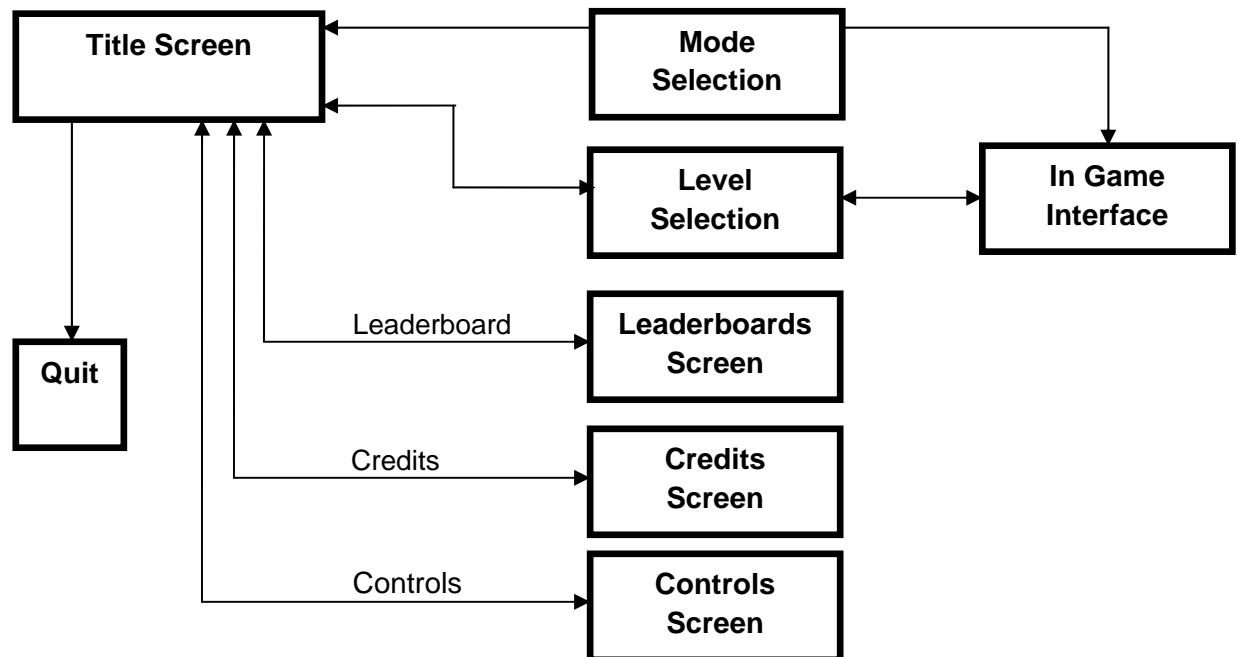
As described in the enemies section, different enemies have different behaviours. Certain enemies are also allowed to fire projectiles at their player, and the Ice Cube Projectile automatically chases the player with an AI of its own.

## 5 Interface

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### 5.1 Interface Flow Chart

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### 5.2 Interface Flow

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The entire game is controlled in the same way as the game played, in order to allow players to understand the controls before even starting to play the game. In order to select an option on the menu screen, Player 1 (other players are also on screen if the different players press their Start Buttons – shown on the menu bar as a prompt at all times) simply moves their Bug over to the option they wish to choose and then press the Run button. In order to explain this to the players, a message is displayed across the bottom of the screen with details.

## 5.3 Menu Screens

### 5.3.1 Title Screen

The image below shows the Title Screen from Retro Impact: Insect World.

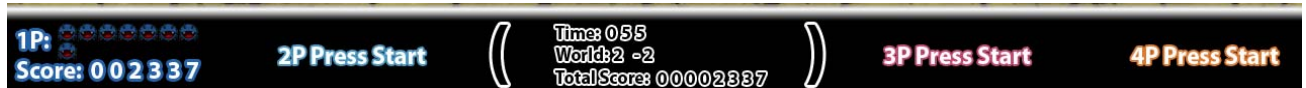


As shown in the screenshot above, the different selectable menu options are grouped together by categories: Amount of players, Game/Options. The player character is ever-present in the game, as is the status bar along the bottom.

- Quest Mode – Starts the main part of the game, the amount of players currently active on the start menu is the amount of players that will be present when the game starts. More players can join at any time by pressing Start.
- ??? (Desert Survival) – This is an unlockable mode, accessible once the game has been completed.
- BadBug Parade – This is a Multiplayer-only mode.
- ??? (Level Select) – Once the game has been completed once, selecting this option opens a level select screen, where the player moves their character over to the level they wish to start playing from.
- This option allows the player to enter the credits screen
- Exit Game – Exits the game

### 5.3.2 In-Game Interface

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The above status bar is present throughout the entire game, even in menus. It contains the following details:

- Number of Lives (for each player)
- Score (for each player)
- Time Remaining
- Current World
- Combined Score

## 6 Style

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- The artistic style in Retro Impact: Insect World is colourful and cartoony. This is aimed to make the game universally approachable by gamers of all ages and demographics.
- Playable characters have a variety of different death animations.
- The different object types in the game have different glows surrounding them to indicate to the player what their purpose is (Blue = friendly, Yellow = collectable, Red = Enemy).
- The decision to include the status bar throughout the entire game for consistency also allows the players to become accustomed to it early on. The playable game area is always situated along the bottom of the screen - away from the bar in order to avoid the gameplay becoming obscured by menus.

### 6.1 Icon

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The game's icon can be seen below:



## 6.2 Environment


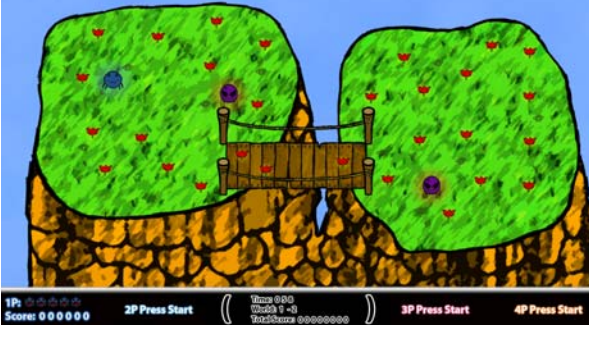


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There are 5 distinct themed environments found in this game, one for each of the 5 worlds. Each environment contains a different gimmick which affects gameplay, as well as unique enemies. The different environments are listed below:

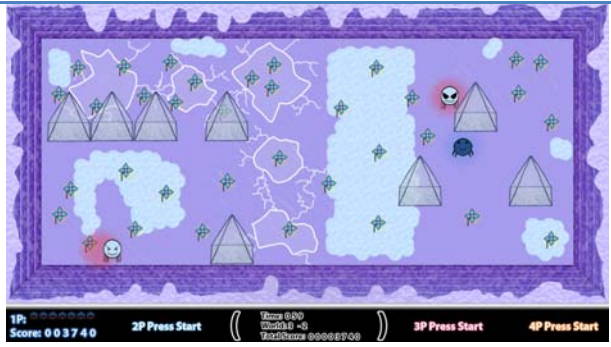
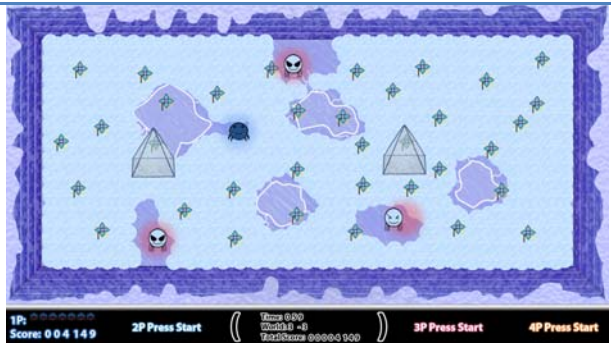

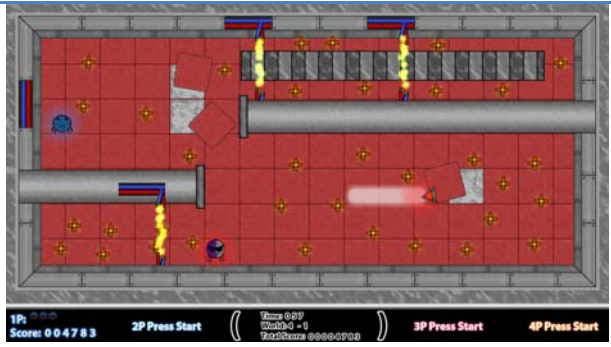
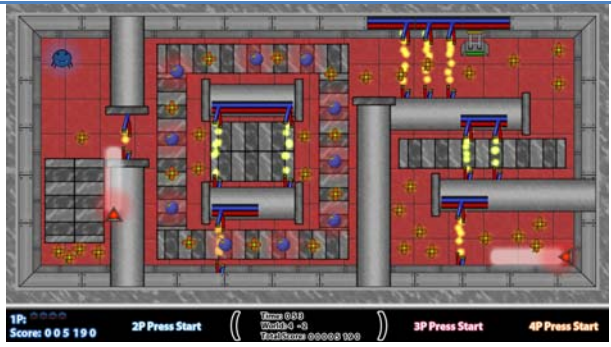
- Islands
- Desert
- Ice
- Electric
- Haunted


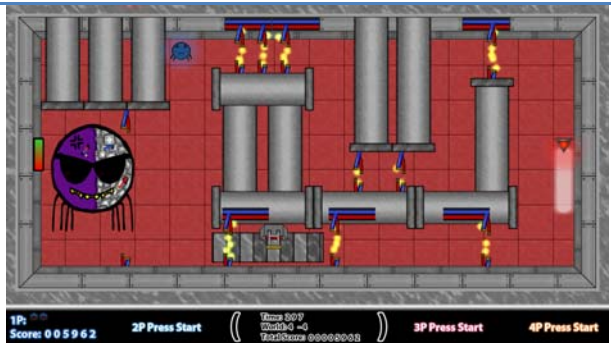

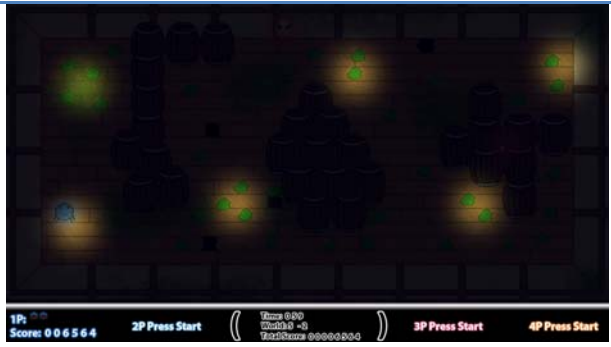

## 7 Levels overview



A general overview of the different levels contained in this game is detailed in the table below, a general rule not detailed however is that each of the first 3 levels of each world has 1, 2 then 3 BadBugs present.

World	Details	Screenshot
1-1	Introductory stage – allows the player to get to understand the game concept	
1-2	2 Islands separated by a bridge	
1-3	A raft allows access to 4 different islands	
1-4	First Boss Battle – in order to defeat this boss the player must collect the required amount of flowers indicated on the beam tower’s screen then return to the tower, at which point the tower fires a blast at the BossBug.	

<p>2-1</p>	<p>Introduction to the desert theme, minimal Quicksand to slow the player down</p>	
<p>2-2</p>	<p>A more maze-like layout, the player is forced to take more risks to get flowers, since they are near trapped BadBugs</p>	
<p>2-3</p>	<p>A vast amount of quicksand works against the player's progress</p>	
<p>2-4</p>	<p>BossBug 2: Each time this BossBug fires a projectile at the player, it decreases in size. In order to defeat this boss the player must simply dodge the BossBug until it destroys itself</p>	
<p>3-1</p>	<p>Slippery ice covers the entire level, and cracked ice is present too. Small patches of snow are present</p>	

<p>3-2</p>	<p>Snow blocks the path, forcing the player to move through it while risking being chased by a BadBugs Ice Cube projectile</p>	 <p>1P:  Score: 003740 2P Press Start ( Time 0:00 Max 0 -0 BadBugs 0000000000 ) 3P Press Start 4P Press Start</p>
<p>3-3</p>	<p>This entire level is covered with snow, the player needs to think ahead in order to stay out of the way of the Ice Cube projectiles</p>	 <p>1P:  Score: 004149 2P Press Start ( Time 0:00 Max 0 -0 BadBugs 0000000000 ) 3P Press Start 4P Press Start</p>
<p>3-4</p>	<p>BossBug 3: Each time this BossBug fires a projectile at the player, it decreases in size. In order to defeat this boss the player must simply dodge the BossBug until it destroys itself</p>	 <p>1P:  Score: 004538 2P Press Start ( Time 0:00 Max 0 -0 BadBugs 0000000000 ) 3P Press Start 4P Press Start</p>
<p>4-1</p>	<p>This level introduces the player to the electricity environmental hazard and the conveyer belts. A Beam Drone is also present.</p>	 <p>1P:  Score: 004783 2P Press Start ( Time 0:00 Max 0 -0 BadBugs 0000000000 ) 3P Press Start 4P Press Start</p>
<p>4-2</p>	<p>A more complicated and linear level, the player is required to dodge bombs while on a moving conveyer belt.</p>	 <p>1P:  Score: 005190 2P Press Start ( Time 0:00 Max 0 -0 BadBugs 0000000000 ) 3P Press Start 4P Press Start</p>

<p>4-3</p>	<p>An evolution of the previous stage, in this level, the player can throw a switch to disable electricity in certain areas.</p>	
<p>4-4</p>	<p>BossBug 4: The player must navigate through a path of electricity traps in order to reach the switch, which causes the BossBug to get electrocuted (needs to be repeated 3 times).</p>	
<p>5-1</p>	<p>In order to successfully complete this level, the player needs to use the power generator to generate light and slow down the Ghost BadBug.</p>	
<p>5-2</p>	<p>This level contains a series of safe zones in the form of light bubbles which the Bad Bugs cannot access – the player must dash from bubble to bubble in order to complete this level.</p>	
<p>5-3</p>	<p>This level again includes light bubbles; however the level is shaped more like a maze making things more difficult.</p>	

<p>5-4</p>	<p>BossBug 5: In order to defeat this BossBug, the player must use the Power Generator to keep the power levels above 80 – which causes the BossBug to gradually shrink until it is defeated. However the boss bug randomly decides to charge at the player.</p>	 <p>The screenshot shows a top-down view of a game level. A boss bug, a grey skull-like creature with red eyes, is on the left. In the center is a power generator with a green display showing 'Power 086'. The level is filled with wooden planks and several stacks of wooden barrels. At the bottom, a HUD shows '1P: Score: 007383', '2P Press Start', a timer 'Time 0:00', 'World -0', 'TotalScore 00007383', '3P Press Start', and '4P Press Start'.</p>
<p>Credits</p>	<p>The credits screen is actually player controllable – the player has the chance to eat the individual text characters to further increase their score before the game ends</p>	 <p>The screenshot shows the credits screen for 'retro Insect: Insect World'. The title is in a stylized blue font. Below it, the credits are listed in a white, monospaced font: '• Game By: Thomas Smith', '• Music By: Distant J', '• Special Thanks to', '-The Smith/Rich family', and '-1up.com Podcasts'. At the bottom, a HUD shows '1P: Score: 000000', '2P Press Start', a timer 'Time 0:00', 'World -0', 'TotalScore 00000000', '3P Press Start', and '4P Press Start'.</p>

## 8 Sound

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This game is accompanied by a variety of different sound effects triggered by different events, for example each time the player eats a flower an eating sound effect plays. While the player is moving a constant sound can be heard, which is increased or decreased in speed depending on how fast the player moves.

### 8.1 Music

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Each of the different worlds in Retro Impact: Insect World contains a unique theme, as well as the title screen and credits.

## 9 Credits

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Thomas Smith

Sam Beddoes (Music)