Collector of Light
Design Document

Joshua Graves – GRA12281943

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Design:

Genre: Endless Runner

Summary:

Collector of Light takes place over randomly generated hills. The difficulty increases as the player collects light, the currency of the game, which can be spent in an upgrade store to permanently affect the gameplay. The game can be lost by colliding with various objects, which are randomly generated as the player gathers more light. The more light gathered the more objects there are to avoid. In the game the player assumes the control of an Ellek, a magical creature that must collect orbs of light to bring life to the barren world which it lives on. The player assumes this role from a third person view, controlling the Ellek by turning their wheelchair.

Core Mechanics:

-
  Progression through repetition
-
  Free movement
-
  Increasing difficulty
-
  Simple intuitive controls

Influences:

Temple Run – Game
An endless runner, and possibly the most famous. Has progression through an in-game store and generates money from in-app purchases. Temple Run also increased in difficulty as the game progressed, giving players a chance to get used to the controls before obstacles became too frequent.

Proteus – Game
A game with no enemies or perceivable threat, with the player simply walking around a natural environment, watching it grow and make noise. It changes with seasons and night/day cycles. This inspired me to create a game with a safe and beautiful, natural environment.
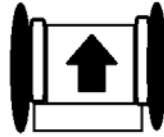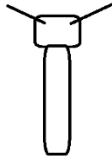
Hitchhikers Guide to the Galaxy – Film
One scene in this film depicts the creation of planets, with all of them being different, in shape, colour and life. This influenced the idea of collecting things to slowly build the life on a planet that's just been created, playing God.

Controls:
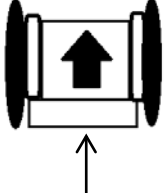
The player controls an Ellek, using their wheelchair to steer it, whilst it endlessly runs. Below are some illustrations showing how the Ellek is controlled:

Ellek Controls:

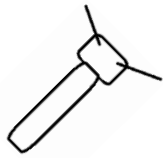| Wheelchair Direction:	Wheelchair Example:	Ellek Direction:	Ellek Example:
Facing Directly forward, toward screen or Kinect.		Travels forward, without any change in direction.	
Turning left slightly.		Begins to turn to the left. The further the wheelchair is turned, the greater the change in angle.	
Turning left greatly.		Turns quickly to the left. Holding in this position will lead to the Ellek running in small circles.	
Turning right slightly.		Begins to turn to the right. The further the wheelchair is turned, the greater the change in angle.	
Turning right greatly.		Turns quickly to the right. Holding in this position will lead to the Ellek running in small circles.	

Forward and backward motion does not affect gameplay at all, as the Ellek will always be travelling in the desired direction, with the player unable to alter the Ellek's speed, outside of the use of power-ups and Light Shop upgrades.

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Menu Controls:

Wheelchair Direction:	Wheelchair Example:	Menu control:
Facing Directly forward, toward screen or Kinect.		No change.
Turning left slightly.		Cycles to the previous option.
Turning right slightly.		Cycles to the next option.
Moving wheelchair forward.		Selects the currently highlighted option.

The amount the wheelchair is turned has no effect on either selection or cycling. Moving forward to select will then require the player to move back again before another selection can be made, otherwise the player will gradually run out of space to use.

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Mechanics:

Scoring – As the player runs through the game they have opportunity to collect light orbs that band together in groups of 5-10. Collecting these orbs will add to the player's light count for that session. Once the session has ended via a game over the session total is presented to the player and added to their overall total. This overall total will increase as the player collects more light but will decrease when their light is spent in the shop. A bonus of 5 light is awarded to the player whenever they successfully collect a full band of light without missing any. So a band of 5 would award 10 overall and a band of 10, 15 overall.

Session Progression – As more light is collected, the player progresses. More obstacles spawn around the world, with larger or mobile objects spawning more and more frequently as more light is collected. This is to make the world more difficult to navigate and thus make light harder to gather, forcing the player to do many runs to save up enough light to buy upgrades. This form of progression only remains during the current session, as when the player starts up a new run, objects return to their original spawning frequency and patterns.

Game Progression – The player progresses in another way by upgrading their abilities via a store where they can spend light they have earned in their various sessions. These upgrades remain permanently, thus making a more overall progression than the session progression.

Movement – The player's speed is constant, with their direction controlled by the rotation of the player's wheelchair. The only things capable of altering the player's speed are powerups, upgrades, collisions and hills. As the play heads up a hill they are slowed slightly, whilst the inverse happens as they descend down a hill. Collisions briefly slow the player to a stop, and grant them the ability to phase through objects for 4 seconds. During these for seconds the player picks back up to normal speed.

Generated Terrain – As the player heads in a direction the world is randomly generated ahead of them, whilst the world behind them is slowly deleted, meaning that the player can later double back and find new lands. The majority of the land is made up of hills and troughs, with few flatlands.

Object Spawning – As the player heads in a direction objects are randomly spawned, with the frequency of objects spawning increasing based on how much light the player has collected. This includes obstacles and passive decorative objects, making the world more alive as the player progresses. As with the land, if the player travels far enough away from an object it despawns, meaning doubling back would lead to finding different objects.

Health – Health is lost when the player collides with an obstacle. Once health is lost the player cannot obtain more, meaning that they only have a very limited amount of times that they can collide with objects. Once they have run out of hearts they trigger a game over. Health is only replenished upon playing a new session. Health count can also be upgraded via the shop.

Game Over – A game over is triggered when the player runs out of health. This takes the player back to the menu where they are presented with their session score.

Upgrades – Upgrades fuel the player's progression and affect the game in a number of ways. Upgrades are bought from the upgrade shop for light that the player has collected throughout their sessions. Each upgrade may be bought 5 times, each time getting progressively more expensive. The upgrades are as follows:

Speed: the speed upgrade increases the players speed by a small amount, this includes the speed of which they turn, so the player can react to tight corners more quickly and gather light more quickly.

Health: the number of hearts the player has is increased by 1 each time the upgrade is bought, leading to a maximum health of 8 hearts.

Light: the amount of light each light orb gives you increases by 1. This upgrade is especially expensive as it effectively changes the game's economy, making upgrades effectively cheaper, as light gets easier to collect in vast amounts.

Shield: this increases the length of time the player remains invincible for after colliding with an object, adding an extra second each time the upgrade is bought.

Powerup: this increases the effect of each upgrade, making them both last longer and have a stronger effect. The effect this has on each powerup will be explained in the powerup section.

Potential further upgrades may be implemented at the developer's discretion, such as cosmetic upgrades for both the world and the player's Ellek.

Powerups – Powerups take the form of swarms of coloured fireflies. Once the player runs through theses the fireflies follow the player for 20 seconds. This time increases by 2 seconds every time the powerups are upgraded. Each powerup is signified by a different colour of firefly and has different effects on gameplay. They are as follows:

Red: Increases the player's speed a great deal. This boost gets progressively slower as it goes on, starting of very fast but slowly returns to normal speed. This powerup lasts longer and grants larger speed boosts when the player upgrades powerups.

Blue: Allows the player to 'ghost' or pass through objects for 20 seconds. This powerup is only upgraded by increasing its effect time.

Pink: Makes the player 'magnetic' to light orbs, making them pull towards the player. This means that the player does not need to directly collide with a light orb to collect it. As the powerups are upgraded this powerup works over longer distances and lasts for a longer time.

Yellow: The yellow powerup simply supplies the player with a large sum of light orbs, starting off at 20, as this powerup is upgraded 5 orbs are added per upgrade.

Potential further powerups may be implemented at the developer's discretion.

Assets:

The Player:
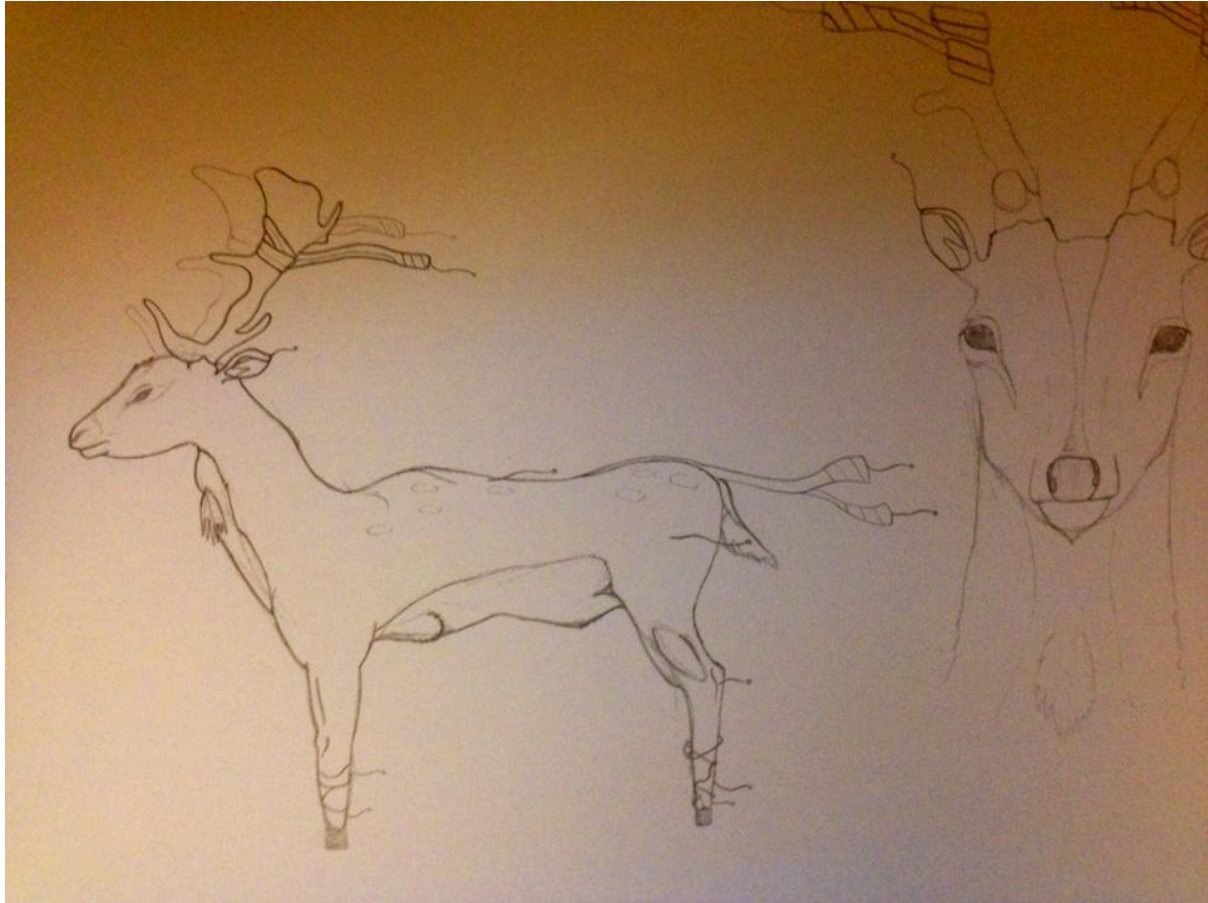
The player's Ellek is a powder blue, with bright white underbelly fur and a white stripe along its back, from its snout to its tail. Bolts of red fabric are wound around its antlers, which are a natural bone colour. Two further bolts of fabric are attached to the Ellek's tail. All bolts of fabric have light stings wound around them, with more light strings attached to the Ellek's legs, ears and various parts of its body. These light strings are white and glow a light blue at the ends. The eyes, snout and hooves of the Ellek are black.

The Ellek runs at a constant pace, only stopping briefly after colliding with an obstacle, which it can do three times before disappearing. The Ellek is taller than most obstacles and also faster than most of the animals.

Obstacles:

Obstacles are objects that damage the player if the player collides with them during their run.

Immobile:

Immobile objects range from plants to naturally occurring structures and objects.

Trees & Shrubs – With brown bark and bright green leaves, shrubs and trees vary in size and shape.

Large Tree – Special, larger than normal trees that only reside on the top of some hills. They have thick brown trunks and bright green leaves. What makes them unique is that they're capable of dropping fruit, which then rolls down to the base of the hill.
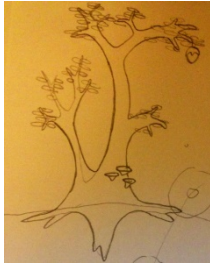
Log – With mushrooms and plants growing out of these brown trunks, logs reside at the bottom of hills, or against logs. They can occasionally roll down hills too.

Pillar & Rocks– Stone pillars that are tall and thin, often with other objects around them. They're magical in appearance, with light strings hanging from them.

Large Plant – Large plants, like flowers only larger. These generally grow in groups, taking up large amounts of space.
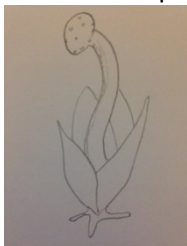
Mobile:

Mobile obstacles consist of rolling fruit and animals. Most animals are the same size, about half the size of the player, with fruit being just smaller than the animals.

Fruit – Falls from Large Trees and rolls down hills; Fruit will harm the player if it comes into contact with them. The fruit vary in shape and colour and are almost the size of an animal.


Ellek – Fast, friendly; Elleks run at a fast pace and in random directions. They react to the player by turning to briefly run alongside them. Afterward they turn to run away from the player, avoiding running into the player. They are a light brown, with white fur patches around the eyes and along the underbelly. Unlike the player, they are not quite as large and they lack the light strings and attached fabric, looking far more natural.
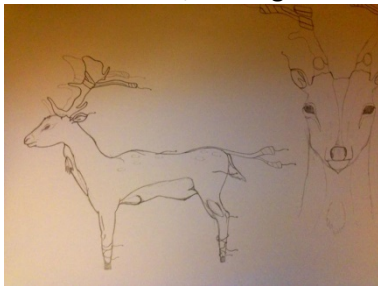
Piggem – Slow moving; Piggems move very slowly and in random directions. They do not react to the player's approach apart from making occasional squeaks and squeals. Piggems are a natural skin colour, like the colour of human skin, their noses and back stripes are a deep brown colour and they have black eyes.
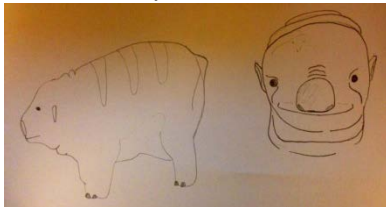
*Snool* – Slow moving, shy; Snools move very slowly and in random directions. They react to the player's approach by hiding in their shells, becoming an immobile object. Snool's can either be a baby blue or a powder pink, with a Snool's shell always being cream in colour. They have light strings protruding from either side of their shell, these give off a faint glow of either blue or pink light, depending on the Snool's colour.
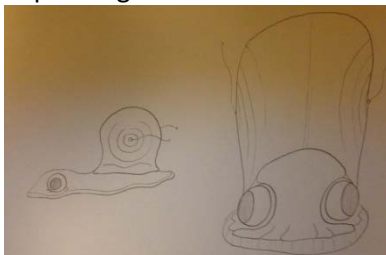
Tribbet – Stationary but jumps large distances; the Tribbet remains mainly stationary, so can almost be considered an immobile obstacle. They hop over large distances before then sitting in their new location for a long period of time. They do not react to the player's approach. They are a muddy green and warty along their backs and on their legs, whilst their underbelly is a yellowy white scaled skin. Their eyes protrude from their heads and are a blind white.
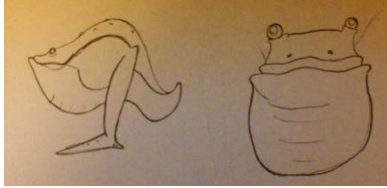
***Quirrel*** – Fast, short bursts of running; the Quirrel runs in random directions and regularly pauses to catch its breath. When the player gets close to a Quirrel, the Quirrel responds by panicking and running. Quirrels are covered in a light brown fur, with a bushy white tail, a white fluff along their underbelly and a white tuft of hair protruding from their head. Their beaks and legs are a bright yellow.
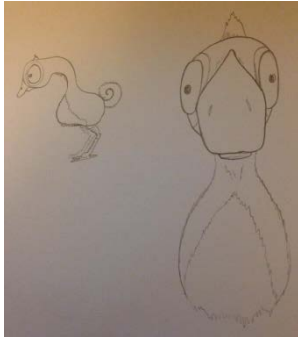
Passive Objects:

Passive objects are effects or objects that do not harm the player; these include power-ups, collectables and visual only objects.

Light – The main collectables of the game, they string together in groups of 5-10, with a glowing sting connecting them, which severs when one of the light's it's attached to is picked up. Light glows a bright yellow from its centre, with small planet-like objects orbiting the light. Small red lights also glow / slowly fade out from the centre. The use and behaviour of light will be explained in the mechanics section of this document.
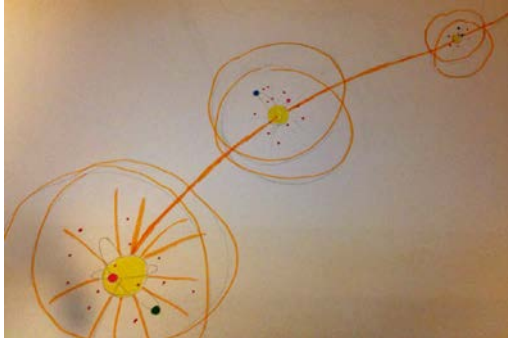

Fireflies – Fireflies are objects that have no behaviour towards the player, they simply fly around aimlessly and glow in a variety of colours. These colour match up with the colours of the powerups, since the powerups are just thick groups of fireflies. Potential firefly colours are Red, Blue, Pink and Yellow.

Powerups – Swarms of fireflies glowing in a colour that represents what effect they would have on the player. Once powerups are run through they follow the player for 20 seconds, a time which can be upgraded in the shop. Once the powerup has run out, the swarm disperses. The potential colours for powerups are Red, Blue, Pink and Yellow.

Plants – Small plants, like grass and flowers that are not large enough to be collided with, these simply litter the ground, rising in number as the player gathers more light. They make the world feel more alive and colourful, with the flowers varying in colours and grass varying in lengths.

Light String – Light Strings are thin strings attached to objects like the player, pillars and Snool shells. They glow a variety of colours, depending on what they're attached to and waft in the wind.

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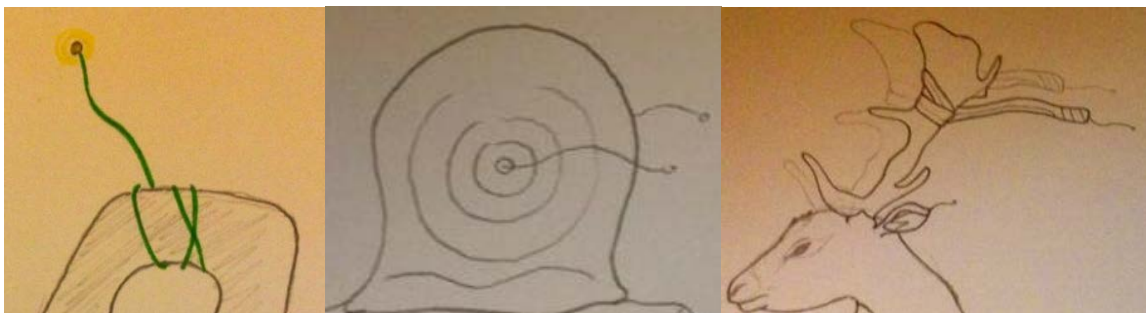
Sounds:

Sound Effects:

Light Gathered Sound – When any light is gathered a short *plink* sound should play, comparable to that of ring gathering in Sonic or coin gathering in Mario but instead plucked on a guitar string.

Light Combo Sound – When a full chain of light is gathered an extra loud jingle is heard, a celebratory noise made up of two *plinks*. A low note followed by a higher note.

Light Spent Sound – A high pitched hum that briefly plays as the counter changes its figure when an upgrade is bought.

Scroll Text Sound – A quiet whooshing noise, comparable to wind which plays whilst the player scrolls text in the help menu.

Button Press – A short clicking sound that plays when a button is pressed. Should be made up from two noises, a click followed by a deeper clunk as the button is finished being pressed.

Menu Change Sound – A short whooshing noise as the previous screen fades into a new screen.

Scroll Buttons Sound – A quiet, high, single click as a new button is selected.

Play Start Sound – A choir hum that accompanies the menu fading away to open the gameplay.

Wooden Collide Sounds – A dull thud that accompanies the player colliding with any trees or logs.

Bush Collide Sounds – A deep rustle that accompanies the player colliding with any bushes.

Plant Collide Sounds – A high rustle that accompanies the player colliding with any plants.

Stone Collide Sounds – A quick cracking sound that accompanies the player colliding with any rocks or pillars.

Animal Collide Sounds – Oinks for Piggems, Chirps for Quirrels, Croaks for Tribbets, Squelches and cracks for Snools and soft thuds for Elleks. These are heard when colliding with animals.

Animal Ambient Sounds – Quieter, less aggressive sounds for the animals, as they remain still.

Animal Movement Sounds – Footsteps, squelches, jumps and landing sounds for animal movement.

Object Ambient Sounds – Soft rustling and rolling sounds for plants and rolling fruit.

Player Movement Sounds – Fast, soft footsteps and grass noises for player movement.

Game over Fade Sound – A low choir hum as the screen fades to black.

Powerup Get Sound – A quick acoustic guitar strum, followed by quick plucking that gradually gets slower as the powerup wears off.

Heart Lost Sound – A soft popping sound accompanying the loss of a heart.

Music:

Menu Music – A soft melody played using non-aggressive sounding instrument. Woodwind and acoustic instruments used to make a short, catchy tune would be ideal. This song plays on the main menu screen and the help screen.

Shop Music – An upbeat, more modern melody, still using primarily acoustic instruments however. More modern instruments are welcome, since the song is to give the feel of busy commerce and modern business.

Game over Music – A slower, more low melancholic version of the menu music, since it is the same screen, but is now associated with a loss.

In game Music – An upbeat but quiet track that progressively gets more complex. Starting off with just one layer of music, most likely made up from just one simple tune played on an acoustic instrument or woodwind. As more light is collected however, and the game gets more difficult, more layers are added, including more instruments and tunes to the music. This will add to the busier feel of the world as it gets more and fuller around the player.

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UI:

In-Game:

Health – The Player's health is represented by hearts on the bottom left of the player's screen. These are a red/pink colour and periodically pulse, like when a human heart beats. As the player collides with an object a heart pops, leaving fewer hearts. Once all 3 hearts have popped the player has lost and is taken to the game over menu.

Light Count – The number of light orbs collected in the current run, each time a new light orb is collected the counter increases by one. This counter resides in the top right of the screen and glows, to both signify light and to stand out from the gameplay taking place behind it.

Player – The player, The Ellek, is in the centre of the screen at all times, with the camera following it. As the player turns, so does the camera.

Main Menu / Game Over:

Title – The Title or logo of the game resides in the top centre of the screen in a large, bright font.

Play Button – The play button, if selected and then pressed this will start the game. Pressing the button will briefly make it 'indent' in appearance, getting visibly darker, making a sound.

Shop Button – The shop button, if selected and then pressed this will take the player to the shop screen. Pressing the button will briefly make it 'indent' in appearance, getting visibly darker, making a sound.

Help Button – The help button, if selected and then pressed this will take the player to the help screen. Pressing the button will briefly make it 'indent' in appearance, getting visibly darker, making a sound.

Button Selector – The player can discern which button is currently selected by a golden orange band that surronds the currently selected button. Once the wheelchair is turned it moves the selector onto either the next or previous button. The selector then fades is the button is pressed.

Collected Counter – If the player reaches this screen via a game over then the amount of light they gathered in their last run is presented along the middle bottom of the screen. The text is made to glow, to imitate light. This counter is not present upon initially loading up the game and is only viewable after a game over.

Shop Screen:
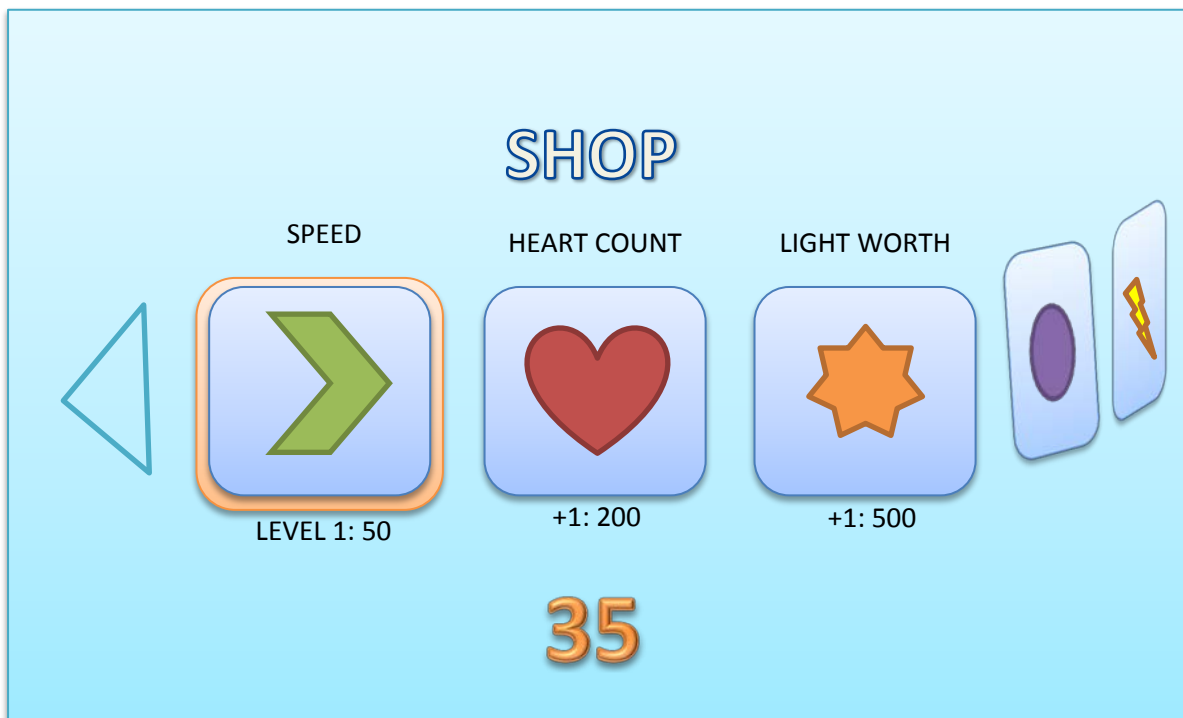
Title – The title of the current screen, in this case the Shop. This is in a large, bright font.

Back Button – A button found to the far left of all of the buttons and is shaped differently, in a backwards facing arrow. Pressing this button will take the player back to the main menu / game over screen.

Upgrade Name – The name of each upgrade, found above the buttons. This is a brief description of what is upgraded, with a detailed explanation found on the help screen.

Upgrade Price – Found below each upgrade this price shows how much light the upgrade will cost and the current level of the upgrade, which increases with each purchase. As the level of the upgrade increases so does its price.

Buttons – The buttons are selectable via the turning of the wheelchair, and pressed by moving the wheelchair forward. As the buttons are cycled through buttons on the right or left will move toward the centre of the screen whilst the others move away, so that the player can cycle through buttons that are not currently in the centre of the screen. Pressing a button will briefly make it 'indent' in appearance, getting visibly darker, making a sound.

Button Selector – The player can discern which button is currently selected by a golden orange band that surronds the currently selected button. Once the wheelchair is turned it moves the selector onto either the next or previous button. The selector then fades is the button is pressed.

Collected Counter – If the player has collected any light orbs they add to the total count, which is displayed at the bottom centre of this screen. This count will rise as the player collects orbs but will also fall whenever orbs are spent in the shop. When light is spent, the counter will glow white and then settle on the new figure.

Help Screen:
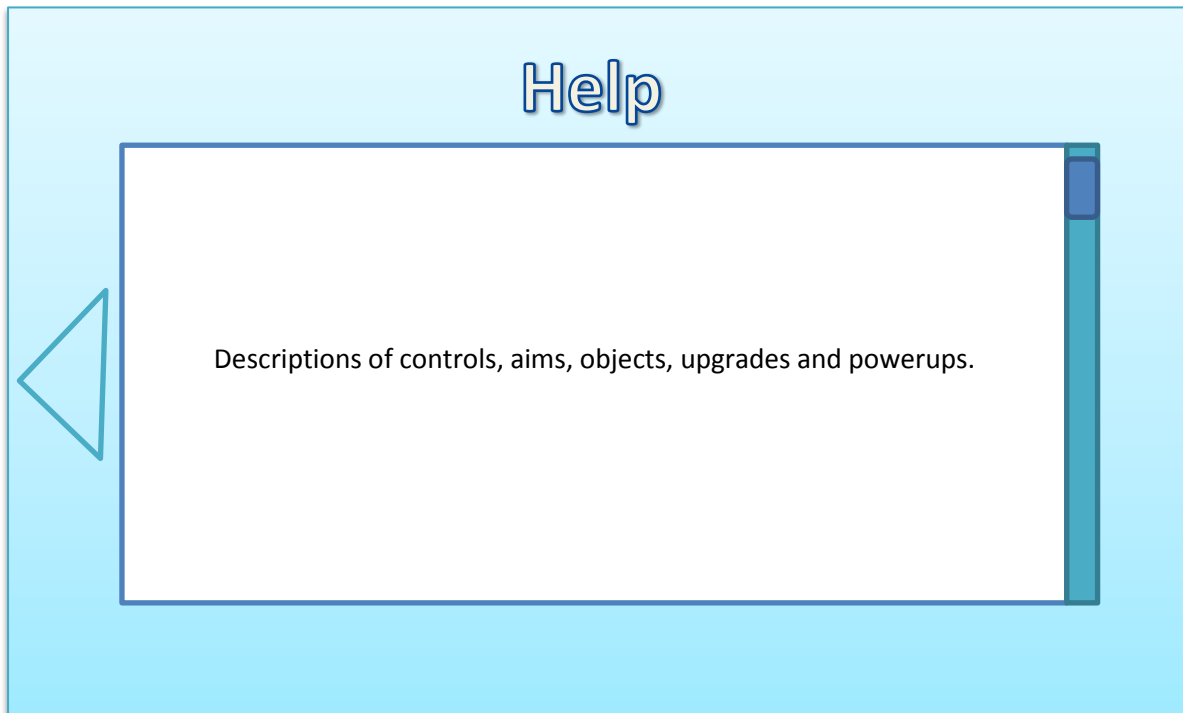
Title – The title of the current screen, in this case the Help Screen. This is in a large, bright font.

Back Button – A button found to the far left of the screen. Pressing this button will take the player back to the main menu / game over screen. It is accessed by either scrolling to the bottom of the text and trying to scroll further, or scrolling all the way to the top of the text and trying to scroll higher.

Help Box – A box taking up the majority of the screen. This box is filled with in depth descriptions on how to navigate the game, both in game and in the menus. It also describes all of the games content, from objects and objectives to upgrades and powerups. It is scrolled through using the wheelchair, right to descend and left to ascend.

Scroll Bar – A bar, with a small pin that ascends and descends as the player scrolls, giving the player an indicator of how far into the help document they have scrolled.