MOBILE PLATFORM GAME DESIGN

Goal: define the basic elements of an iPhone platform game (like *Rayman*, *Mario*, *Sonic…*), and create a level using these elements. It must be a side-view game.

> Sample target hardware: *iPhone 8*
>
> http://www.apple.com/iphone/specs.html

2.1 Main Character And Abilities

Basic abilities are:

- *Move to the right*
- *Move to the left*
- *Jump (Jump height = twice the character sprite height)*
- *Crouch*

2.1. A) Design the main character, make a short description of him/her below: (no drawing needed)

Christopher Edwards is 29 years old. He grew up in South California, outside of Los Angeles. His father has an editor and his mother a producer for various television shows on the Syfy Network. At age 15 he wanted to get into acting and started pretending to be a psychic and medium. After gathering a small fan base in southern California, Syfy gave Chris his own series called Ghost Hunter. During the filming of an episode inside an abandoned house Chris disappeared. The ghosts in America became increasing frustrated with Chris lying about his abilities and want to give him the scare of his life; Chris was transported to another dimension. The ghosts tell Chris he must collect 10 artifact for them to return him to his world. One ghost named Shiroi is Chris's biggest fan and bestows upon him all the powers he claims to have on Ghost Hunter.

Chris is 5'9 and weighs 150 pounds. He has a slim athletic body, but not muscular. He has brown hair and a very distinct smile. He is very observant and can read people exceptionally well. Chris ponders his thoughts a lot before talking, this helps him trick people into believing he has real psychic powers.

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2.1. B) Describe the game context shortly (setting, background…)

The game takes place in another dimension. The only inhabitants of this place are ghost. The ghosts travel between dimensions to scare humans for entertainment. The atmosphere is dark and spooky, but not scary; similar to a Ghost House in Mario.

2.1. C) Define 2 special skills for the hero. Those skills should be available from the beginning of the game.

Chris has two special skills he can use at all times. The first is **psychic pick up** and the second is a **psychic attack**.

Psychic Pick-up: This ability is activated by one of the virtual buttons on the screen. The pick-up can be performed in the air. Chris will move one hand to his forehead and the other hand he will point in the direction he is facing. This animation should be short; .1 seconds at most. Particles should be seen coming from both of Chris's hands to show the player he is using his psychic powers. The particle is small and disappears quickly. Chris makes a sound when he beings to use his powers. A blast shoots out from Chris's hand in the direction he is facing. If the blast hits an object that can be moved the object receives a glow in the form of an outline. All objects that can be picked up have energy coming off of them to show the player they can be picked up.


Cannot Pick-Up   Can Pick-Up
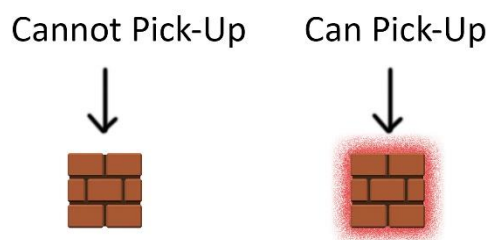
Chris will use his psychic powers to move the object until the button is pressed again. Through running the player can use the momentum of the object to throw it at enemies on screen. The pick-up ability can also be used to place objects in areas to reach new parts of the level and find hidden items. This ability can be upgraded throughout the game to move heavier objects. Chris has to be within range of objects to pick them up. The range is 5 units.

* ***One unit is the width of Chris.***

Max Distance
5 Units
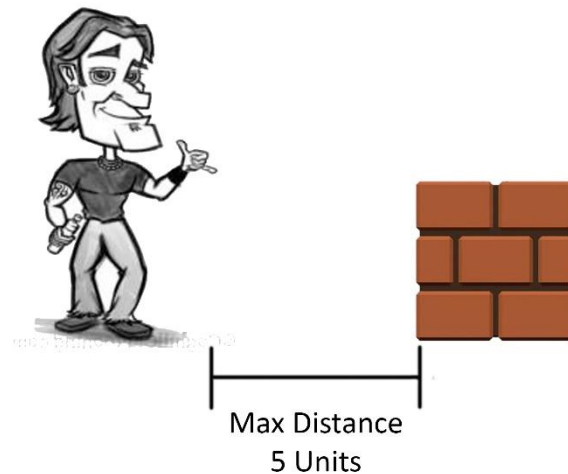
Psychic Attack: This ability is activated by touching one of the virtual buttons. Chris will shoot a psychic attack in the direction he is facing. This ability can be used in the air. An animation of Chris raising his hand to shoot happens when the player touches the ability button. The same animation, particles and audio is used for both abilities. When the attack hits the location it explodes and a particle plays of parts of the explosion falling through the air. The particle disappears very quickly. This attack can be used to defeat enemies and break objects in the environment.


Max Distance
15 Units

3
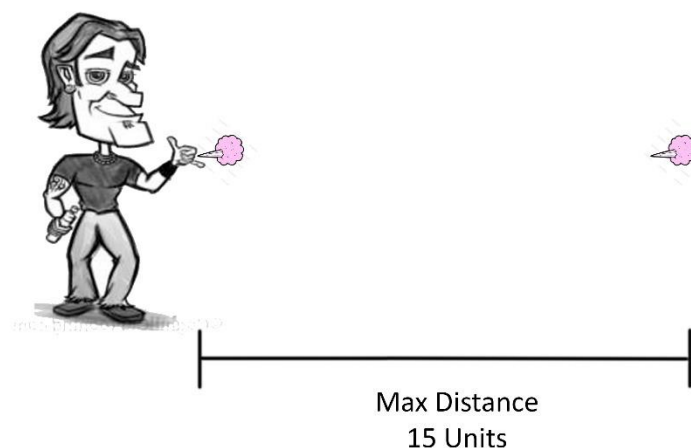
2.1. D) Define 1 special skill that will be unlocked at a specific point in the level (i.e. not available from the beginning of the level).

Note: This skill will be used in the LD of Part three.

The special skill the player unlocks is the ability to turn into a ghost. The player presses both buttons on the screen at the same time and an animation plays of Chris putting both of his hands on his head. The same particles from the other abilities comes out of his hands. Psychic energy surrounds Chris and then disappears and the player is no a ghost. The player can control the ghost and move freely on the x and y axis as the ghost is not affected by gravity.

A Bar on screen depletes as the player stays as a ghost. When the bar is empty the player turns back into Chris. As a ghost players are not damaged by other ghosts. The Ghost has the power to eat other ghosts and turn them into gems. Players can use this ability to increase their score for the level.
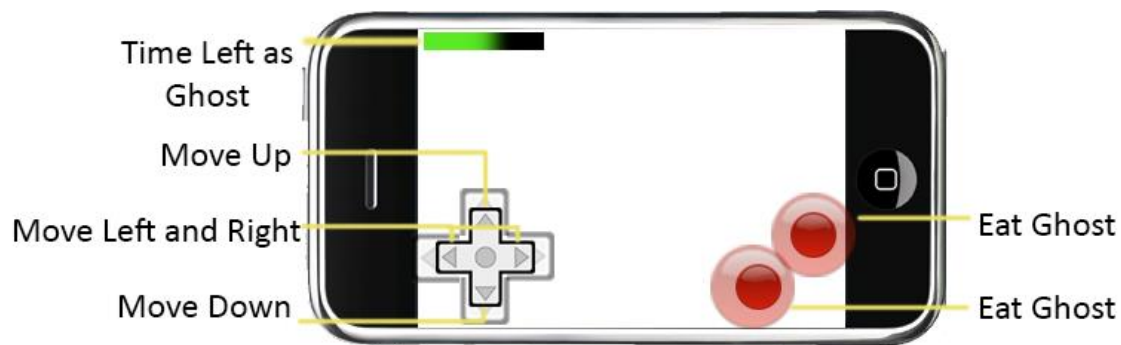
2.2 Entertainment Culture / Competitors

2.2. A) Taking examples from other entertainment products (movies, TV shows, music, arts…), what would be the key references for your game?   Add visual references if needed.

References for the game are the movies Ghostbusters and Casper: The Friendly Ghost, the television shots Danny Phantom and Scooby Doo. I picked these references because they all deal with ghosts but

keep the supernatural beings light hearted. The game is not intended to be a scary survival horror game. The game is meant to be light hearted and spooky, playable for all ages.

2.2. A) What are the direct competitors of this game? (i.e. of the same genre, on the same platform). Add screenshots if necessary.

On the App Store Mega Man II is currently at number 62 for adventure games. While Mega Man differs in terms of story and visual style; Mega Man has very similar game play. Both games contain platforming, shooting and use of abilities. They also both are 2D side scrolling games.

2.2. B) What are the other competitors of this game in terms of gameplay? (i.e. on any other device). Add screenshots if necessary.

Luigi's Mansion for the Nintendo 3DS is a competitor for Ghost Hunter because it has a very similar tone for the game, contains the same theme and is on a handheld device. Luigi's Mansion takes ghosts and makes them comical and friendly looking. Luigi is also a ghost hunter, just like Chris Edwards. Luigi's Mansion being in 3D and the gameplay set the games apart.
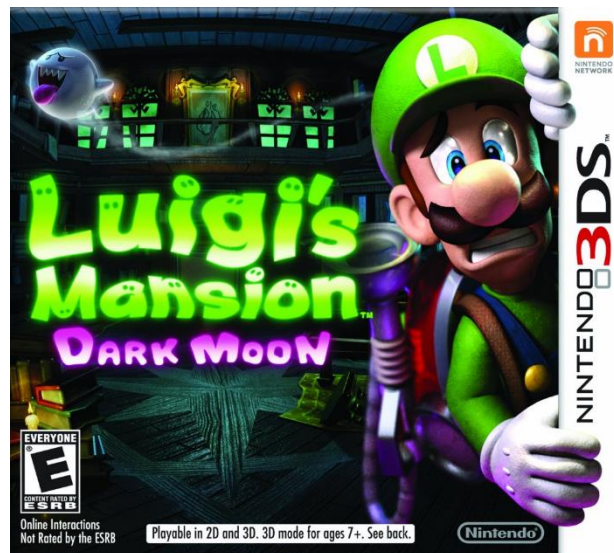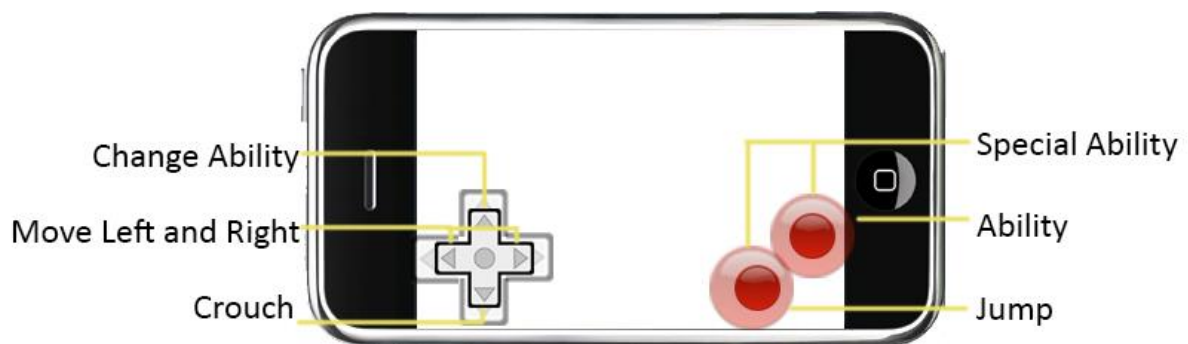
2.3 Controls

2.3. A) Define the controls under the following constraints:

iPhone 3GS

- 1 virtual pad + 2 buttons.

- Double input (i.e.: two simultaneous inputs on different parts of the screen can be detected)

1) Move to the right: Right on the virtual pad

2) Move to the left: Left on the virtual pad

3) Jump: Left virtual button

4) Crouch: Down on the virtual pad

5) Change Abilities: Up on the virtual pad

6) Special 1: Right virtual button

7) Special 2: Right virtual button

8) Special 3 (to be unlocked later): Both virtual buttons

2.3. B) Which specific issues should you cover in order to ensure maximum usability on this touch-screen device?

The biggest issue with using touching screen input for controls is that the buttons are on the screen taking away screen space from the game. The buttons on the screen have an area around the button which the player can hit for the game to receive input. Using an invisible area around the buttons the buttons in turn can be smaller; giving more screen space to the game.

2.4 Gameplay Elements

The goal of this part is to define the basic level design elements of your game.

Surface properties

The map is composed of different surfaces.

Ex: basic surface is solid ground.

Properties: Objects (including player) collide with the upper part of the tile. Player and NPCs will therefore be able to walk on it.

2.4. A) Define 3 other surfaces

Surface #1: Ghost Blocks

Properties: Ghost blocks look like solid ground. Enemies can move over these blocks. When a player is within 6 units to a ghost block, it shakes and flies up and off the screen. These blocks are used to deform the environment during gameplay and provide different challenges to the player.

Surface #2: Forward Blocks

Properties: Forward blocks push the player forward in a direction. The blocks have an arrow above them and the arrow moves up and down slightly; looks like the arrow is bouncing. Forward blocks can push a player left, right up or down. When on a forward block, a player will continue to move unless they jump. When moving up or down a player jumps on their local up vector. Enemies are not affected by forward blocks.
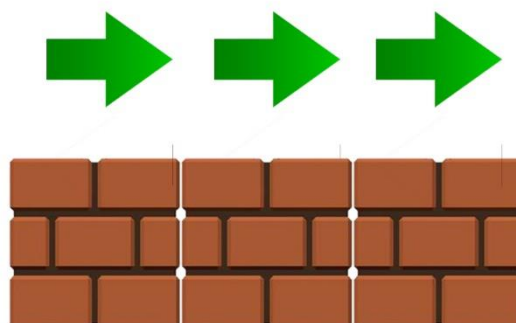
Surface #3: Moving Block

Properties: Moving blocks are stationary until a player is colliding with the top of them. Moving blocks then begin to move left or right. Moving blocks are at least 3 units wide. Moving blocks can move up and down by stacking the blocks on top of each other and forming stairs. Enemies cannot activate moving blocks.

Normal Moving block
It can move left or right

Moving block stacking to create stairs. The first block moves up and the rest follow.
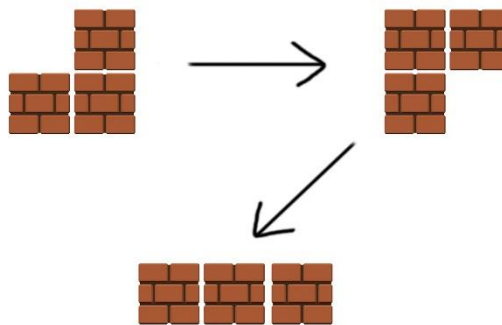
Interactive elements

Players can interact with these elements to reach new places in the level, collect bonuses, destroy enemies or do anything else you want.

For instance: barrels from 'Donkey Kong Country', pipes from 'Mario', plums from 'Rayman'.

2.4. B) Define 2 interactive elements and describe the gameplay they create.

Interactive element #1: Door

Gameplay: The doors are entered when a player is standing in front of one and presses the jump button. The doors change the dimension the player is in and changes the level layout. Changing the level layout reveals hidden areas and platforms to the player. Using the doors the player changes the game world.

Interactive element #2: Hungry Ghost

Gameplay: The Hungry Ghosts want to eat Chris. Chris can jump into the Hungry Ghosts mouth and by pressing the jump button, Chris shoots out psychic energy causing the ghost to spit him out. Players can use the Hungry Ghosts to move across large areas without any platforms to walk on and to reach new areas.

Enemies

2.4. C) Define 2 enemies and describe their behaviour.

Enemy #1: Basic Ghost

Behaviour:

The basic ghost moves around the screen stopping at edges and turning around. The basic ghost moves are .8 speed of the player. This is to give the player an advantage when moving compared to this enemy. The ghost will change their expression when they see the player and move towards them. The basic ghost will notice the player at 7 units away. If the player is 12 or more units away the ghost will stop chasing the player and revert back to its movement. This ghost **will not** chase a player over a hole in the ground. The ghost will wait at the edge. The basic ghost is 1 unit high and wide.

The basic ghost is defeated by hitting it with a psychic attack. The pick-up ability can be used on this ghost; allowing the player to carry the ghost. The pick-up ability does not defeat the ghost. When the player touches the ability button a second time, the ghost returns back to moving.

Enemy #2: Hiding Ghost

Behaviour: The hiding ghost tries to hide in the level and surprise the player. The ghost stays near an object decreasing its opacity by 30%. When a player gest within two units of a Hiding Ghost it jumps out to scare the player and attack them. After scaring a player the ghost disappears. The Hiding Ghost is 1 unit high and wide.

The Hiding Ghost can be defeated with the psychic attack and can be grabbed by the psychic pick-up.

The player does not have health and cannot die from ghosts. When a ghost collides with a player the ghost disappears and the players score decreases. The score never goes negative and will stay at 0 if a player constantly takes damage.

Rewards

2.4. D) Describe the in-game reward structure (during a level):

Players earn a score during the level. At the end of the level the score transfers over into in-game currency. Players that takes less damage and defeat more ghosts are rewarded with a higher score. Each time a ghost is defeated it will drop gems for the player to collect; increasing the score more. Players can increase their score further by collecting the hidden gems in levels.

2.4. E) Describe the out-game reward structure (in-between levels):

After each level the player can buy items and new abilities. Players earn currency through their score at the end of each level and by collecting gems in levels. Items the player can buy are different outfits for the character and different characters like Shiroi. The items and abilities are unlocked by completing levels and finding hidden gems in levels.

2.4. F) What kind of behaviour is encouraged by this reward structure?

The reward structure encourages players to defeat ghosts and explore the levels. Players do not have health and cannot die; making score tied directly with all player actions. A player that takes less damage and defeats more ghosts will earn a higher score giving them more money to spend after each level.

2.5 Game Audience

2.5. A) List the features that will make your game appealing for a casual audience (i.e. **not** hardcore gamers)

Players cannot die in Ghost Hunter. Ghost Hunter is very forgiving and avoids punishing the player. Games that avoid harsh punishment and are friendly for people to pick-up and play succeed with a casual market. Ghost Hunter is also not a very serious game and has a comical tone.

2.5. B) Which additional features will you add to make it also appealing to a mass-market audience?

To grow the appeal of the game online and social features could be added in.

2.5. C) Could you imagine a concept targeted to the girl audience?

Through working at GameStop I noticed girls buy often buy games like the Sims, Animal Crossing and more recently Tomadachi Life. All of these games have the player controlling one or more characters and aiding the characters in living out their life. Adding an option in between levels for players to wander around the new dimension and have a house they can put things in could appeal to a girl audience. Items could be collected in levels and bought to decorate their house.

PART THREE

Goal: Create a level using all the elements listed above.

3.1 Visual References

3.1. A) Taking inspiration from mass-market media, entertainment (music, movies, animation, comics…), or any medium of your choice, add a set of visual references that will help the team to set the tone of the level.

The visual style of Ghost Hunter is inspired by Nintendo 2D games and Pixar movies. Nintendo games focus attention on being vibrant and colourful than super realistic. I think this art style appeals to more people because it is very warm and cartoony.

3.2 Level Design

3.2. A) Describe how and when is the third character skill is unlocked in this level.

When the player gets to the bottom part of the level 5 Basic Ghosts appear. A Cutscene plays and shows one of the ghosts has a magic item that turns it into a copy of Chris. After defeating the 4 ghosts and the copy of Chris. The ghost turns back into a ghost and flees. Chris picks up the item and mentions he can use it to turn into a ghost. The two buttons on the screen flash after the cutscene for the player to touch them.

3.2. B) What will you do to ensure players understand its use and master it immediately?

When the player unlocks the third skill, the next section of the level requires them to turn into a ghost to advance. Basic ghosts will be in this section of the level. They will not attack the player. The basic ghosts will be seen talking to each other about how each gem in the world is a ghost that was eaten by another ghosts, which led to the outlawing of cannibalism between ghosts.
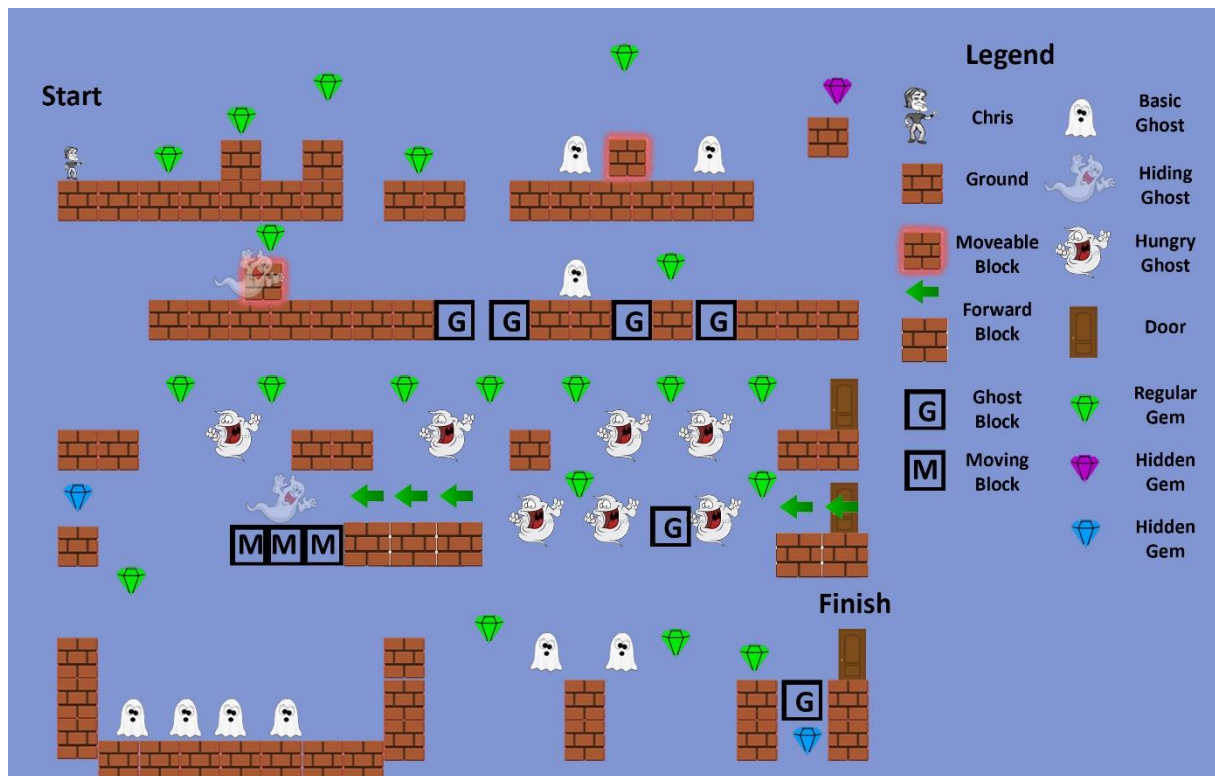
3.2. C) Use all the elements you've just defined to build a level.

The level should feature all the surfaces, design elements and enemies you have described in this test.

The constraints are the following:

- **Max** level size: 8000*2400 pixels (width*height)
- **Max** character size: 70*115 pixels (width*height)

(These are max values so they could vary if you think it's appropriate)

3.3 Fake Screenshot

Using whatever bitmap editor you want, make a fake screenshot of your game

Constraint:

Screen size: 800*480 pixels (width*height) – **landscape format**