



# game design document



<b>Executive Summary .....</b>	<b>3</b>
<b>Overview .....</b>	<b>4</b>
<b>Demographic .....</b>	<b>5</b>
<b>Platform .....</b>	<b>6</b>
<b>KuoKoa's Story .....</b>	<b>7</b>
<b>Design Pillars .....</b>	<b>8</b>
<b>Core Mechanics .....</b>	<b>9</b>
<b>Interface .....</b>	<b>11</b>
Start Screen .....	11
Obstacle Runner .....	12
Virtual Pet.....	17
<b>Achievements and Rewards.....</b>	<b>28</b>
<b>Sample Levels.....</b>	<b>29</b>
<b>10 Minutes of Play .....</b>	<b>31</b>
<b>Commercials.....</b>	<b>37</b>
<b>Budget .....</b>	<b>38</b>
<b>Future Plans .....</b>	<b>39</b>
<b>Glossary.....</b>	<b>40</b>
<b>References.....</b>	<b>41</b>
<b>Appendix .....</b>	<b>44</b>



# Executive Summary



A cross between *Temple Run* (Imangi Studios, 2011) and *Neko Atsume* (Hit-Point, 2014), this wildlife-inspired mobile game aims to educate people about the conservation work carried out by the global charity, WWF. There are two main parts to *KuoKoa*: one is an obstacle runner where players have to navigate an endangered animal to safety – whether it is a giant panda, sea turtle, or Adélie penguin – and overcome **obstacles** that represent real life dangers to their survival. The second part is the **Wildlife Sanctuary**, where players can take care of the rescued animals once their obstacle runner levels have been completed.





*KuoKoa* is a mobile game, a fusion of two of the most popular genres in the market, an obstacle runner and a virtual pet simulator. *KuoKoa* teaches players about the incredible work being carried out by World Wide Fund for Nature (WWF), particularly that which involves protecting endangered animals. In turn, *KuoKoa* raises awareness of the threats being faced by our planet's wildlife and inspires players to support the WWF, providing them with opportunities to donate if they wish to.

In the obstacle runner section of the game, the player must guide endangered animals to safety by avoiding or overcoming the threats that stand in its way. Each level presents a different species to save and poses the player with new dangers to contend with. As the **obstacles** reflect the issues that wildlife encounter in the real world, playing *KuoKoa* explains why certain species are struggling to survive, both entertaining and educating the player at the same time. Completing a level unlocks harder levels and allows the player to adopt the animal they have rescued, which will inhabit the **Wildlife Sanctuary**, the virtual pet element of *KuoKoa*.

The **Wildlife Sanctuary** is where the player can interact with the animals they have rescued in the obstacle runner levels. The goal is to maximise the animals' wellbeing and the overall quality of the **Wildlife Sanctuary**. The player can achieve this by giving the animals affection and purchasing items, such as clothing accessories. The **Wildlife Sanctuary** is also the player's main source of knowledge for everything related to the endangered animals. Further information about each species; what the WWF are doing to protect them; and how to adopt an endangered animal in real life can be accessed [here](#).

*KuoKoa* is not only a charming and engaging game that will attract a wide range of players, it is also an educational tool that provokes people to consider the impact they have on the planet. In an age led by technology, *KuoKoa* has the power to reach a new audience and expand WWF's patronage by helping players to understand the importance of protecting the world we share with wildlife.





- 🐾 ***KuoKoa* aims to attract both sexes in the older children and young adult market – from the ages of 11 through to 24.**
- 🐾 The majority of this demographic are gamers, as 77% of 11-14 year-olds and 57% of 15-24 year-olds play games in the UK (ISFE, 2016). This gives *KuoKoa* the greatest chance at reaching the largest number of people.
- 🐾 We have designed *KuoKoa* with this demographic in mind. The art style we have adopted features cute animal characters, comparable to that found in mobile games that appeal to a similar target audience, such as *Pokémon GO* (Niantic, 2016) and *Neko Atsume* (Hit-Point, 2014).
- 🐾 *KuoKoa* hopes to inspire the older players of this age group to consider financially supporting the WWF. For those that are too young to donate, we hope that they will continue to be concerned about wild animals and perhaps become donators in the future.



**We anticipate the game will receive a PEGI rating of PEGI 7, as *KuoKoa* might contain ‘some possibly frightening scenes or sounds’ (PEGI, 2015).**

We have carefully considered how we will represent peril and violence towards animals in our game to avoid frightening the younger members of our target age group. We will not show implicit or explicit animal deaths in the game, either in the obstacle runner or the virtual pet element, and any **obstacles** faced by the animal can be avoided or escaped. There is a possibility that the game may be assigned PEGI 12 status as *KuoKoa* may have features that fit within the category of ‘non-graphic violence towards [...] recognisable animals’. We would need to seek expert guidance on classification but, as our game is targeted towards players no younger than 11, an assigning of PEGI 12 would not be hugely detrimental to our demographic.



🐾 iOS, Android



The mobile gaming market is massive, making up more than half of the UK app market. Global consultancies predict that mobile (consisting of smartphones and tablets) will become the leading games platform by software revenue (Ukie, 2015). The mobile games market was worth £664m in the UK alone in 2015 – a figure up over 20% from 2014, with 10 million people playing app games (ISFE, 2016).

The sheer reach of mobile devices as a platform has a big impact on these factors. In early 2015, research shows that 44% of UK households own an iPhone, 46% an Android phone, and 12% a Windows phone (Ukie, 2015). This means that the huge majority of our target demographic have access to a mobile gaming platform. According to research conducted by global consultancy, Deloitte (2016), an estimated 1.75 billion smartphones and tablets are used to play games frequently, compared to 600 million PC users and 200 million console players.

The ubiquity and simplicity of the mobile device as a gaming platform means that it is ideally suited to *KuoKoa*. This is because gameplay is presented in either short standalone sections in the obstacle runner or in the easy 'dip-in-and-out' gameplay of the **Wildlife Sanctuary**. Furthermore, research shows that mobile app users with 30 minutes to spare are more likely to play a mobile game than engage in any other activity (Sonders, 2016).



Planet Earth is a wondrous place. It is a planet of pristine glaciers and limitless deserts, of steaming jungles and mountains that touch the clouds. It is also home. Not only for us, but for more species of animal and plant life than we could even begin to list.

Sadly, many of these species are under threat and fight every day for survival. Deforestation, climate change, the exotic pet trade, and unsustainable fishing practices are a handful of dangers that our rarest of creatures must face.

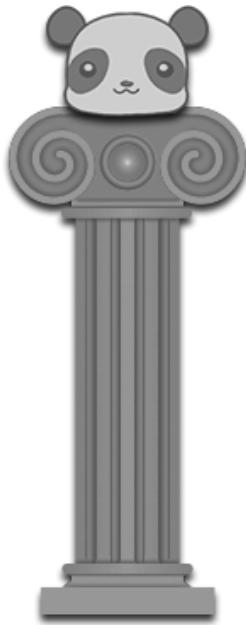
From polar bears in the Arctic, struggling against a 40% decline in sea ice that is diminishing their habitats and forcing them closer to human settlements in their starving desperation; to the sea turtles fighting against polluted waters and the dangers of becoming entangled in fishing nets; to the penguins in the Antarctic trying to survive the overfishing of krill, their main food source; these threats span the planet in a terrifying web of destruction.

Zhen lives in this world of beauty and uncertainty: she is a giant panda, the symbol of the WWF, and one of its blossoming success stories. Giant panda numbers have been increasing, with their conservation status now officially reduced from 'Endangered' to 'Vulnerable' (WWF, 2016).

Zhen's world is getting safer, but many of her friends are still in constant threat. The work of the WWF is not over yet. As you play *KuoKoo*, you can help Zhen and her friends overcome these threats and live safer, happier lives. Guide Zhen and others, such as Jules the Adélie penguin or Wayan the hawksbill turtle, past **obstacles** they face in real life and then care for them in **Wildlife Sanctuary**. Travel the world as you guide animals to safety in their levels and unlock other regions, from the snowy Arctic to the wide Pacific seas. Only the most dedicated conservationists will be able to unlock every area and save all the animals!



# design Pillars

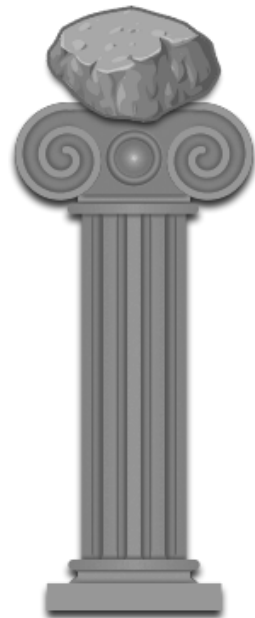


## **Animals**

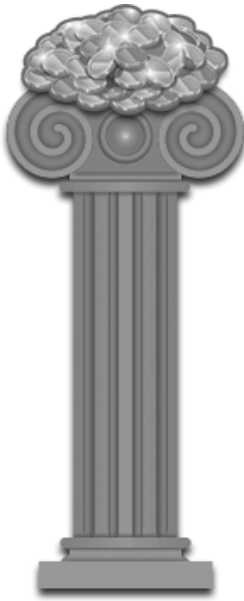
This first design pillar is fundamental to *KuoKoa* because the game's primary focus is to educate people about endangered animals around the world. All *KuoKoa*'s characters represent each animal in a way that does their heart-breaking stories justice. This will provoke players to become emotionally invested in the animals in *KuoKoa*. In turn, this will inspire sympathy for the characters' real world counterparts and thus increasing support for the charity. We believe the animal characters in *KuoKoa* are the key to creating new WWF benefactors so a significant amount of thought and research has gone into this area, which will be evident throughout this document.

## **Obstacles**

A large part of educating players about endangered animals is explaining the threats they face. This is where **obstacles** come in. The **obstacles** in *KuoKoa* not only form the game's challenges but they also reflect the real-life dangers animals encounter in real life. This means players learn about the lives of endangered animals and the work of the WWF through completing levels. Again, as **obstacles** are an essential part of the player's experience of *KuoKoa*, a lot of time and consideration has gone into their design. There is a wide range of **obstacles**, unique to each animal, each with their own set of behaviours that require different interactions from the player.







## Collecting Points

As *KuoKoa* has a rich reward system, collecting **points** will motivate players to continue playing again and again, so it is necessary to keep this feature in mind throughout the design process. **Points** scored in the obstacle runner are converted into currency that can be used to redeem various items in the virtual pet shop. This feature will therefore encourage players who want to improve their **Wildlife Sanctuary** to strive to collect more **points** by completing levels or through donating. This is where we see the most money being generated for the WWF.

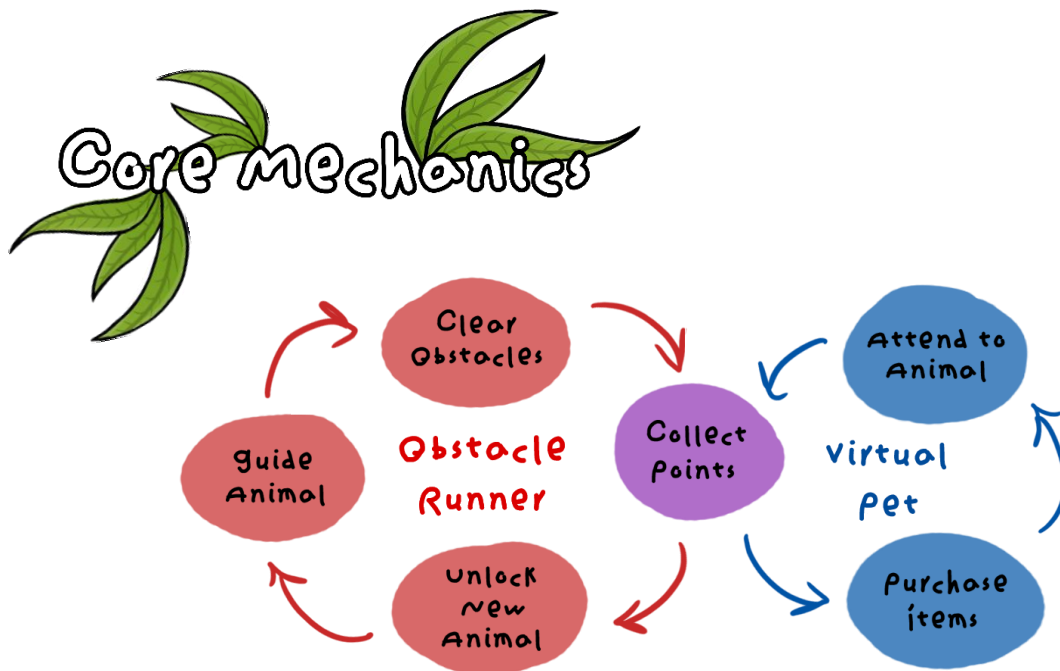
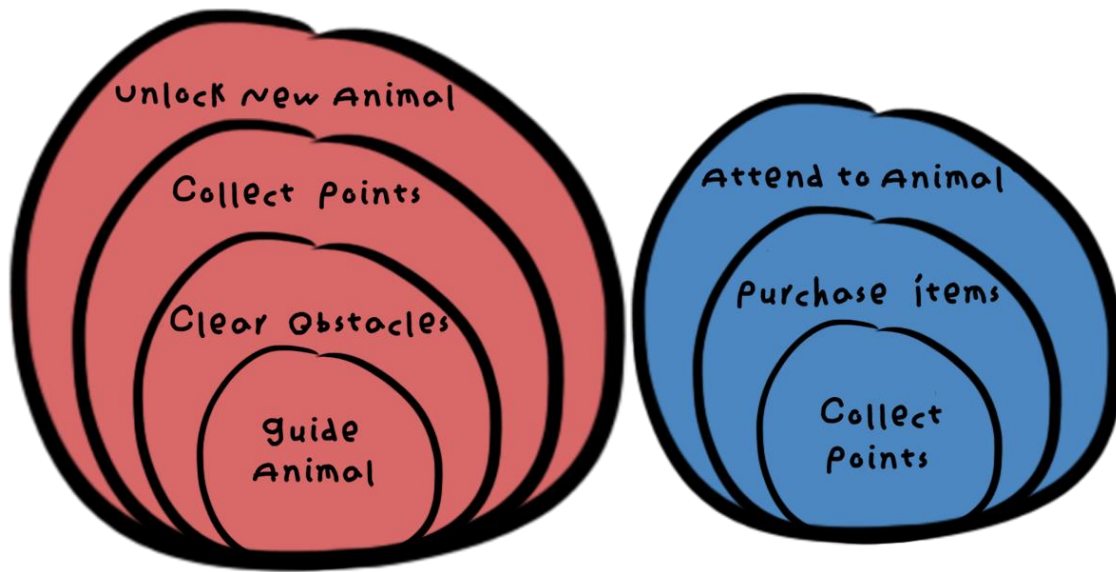


Figure 1. A diagram depicting *KuoKoa*'s core game loop

Figure 1 depicts *KuoKoa*'s dual-core game loop. It demonstrates how the obstacle runner and the virtual pet simulator are connected. The player's ability to 'collect **points**' is a mechanic that is fundamental to both sections of the game. This is because the player collects **points** in the obstacle runner, which can then be used to redeem items in the virtual pet store. This, along with the other mechanics displayed in *Figures 1* and *2*, will be explained in greater detail in the next chapter of this document.



*Figure 2. A petal diagram depicting the relationship between the core mechanics in both the obstacle runner (red) and the virtual pet simulator (blue)*

Figure 2 illustrates the two game loops separately in the form of petal diagrams to demonstrate how the game progresses in both the obstacle runner and the virtual pet simulator.

- 🐾 The red petal diagram explains how guiding an animal in the obstacle runner allows the player to clear **obstacles**. By clearing **obstacles** successfully, the player can collect **points**. Once all the **obstacles** are cleared, the level is won and the **points** are translated into currency that can be used in the virtual pet simulator. As a reward for completing the level, the player unlocks a new animal that can be found in the **Wildlife Sanctuary**.
- 🐾 The blue petal diagram explains how collecting **points**, which have been translated into in-game currency, allows the player to purchase items. In turn, the player can use these items to attend to the animals in the virtual pet simulator, a.k.a. the **Wildlife Sanctuary**.

To view an in-depth breakdown of our core mechanics and their relationships with other mechanics, please see *Appendix 1*.



## Start Screen

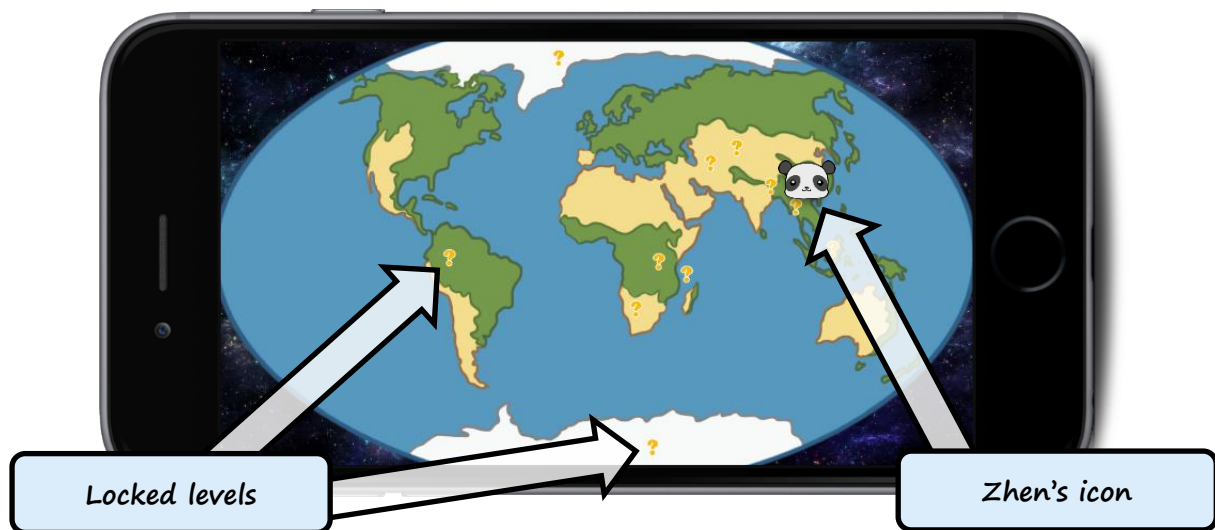


Figure 3. World map design at the start of KuoKoa

The menu screen in *KuoKoa* is a **World Map** that will display all the obstacle runner levels available to the player. Icons of endangered animals' faces are dotted around the map, representing which animals need saving and where they are located on the planet. At the beginning of the game, only an icon of Zhen's face is visible, meaning Zhen's level is the only level the player can currently access (see *Figure 3*). The other levels, represented by question mark icons, are currently locked. Zhen's level is a tutorial level that will explain the interface of the obstacle runner element of the game. To enter Zhen's level, the player taps on the icon of her face, opening a window that describes the level. From this window, the player can choose to accept the mission to save Zhen or return to the **World Map**. The player will also see a locked "Giant Panda **Habitat**" button in this window, which she will be unable to press at this point. Completing the giant panda obstacle runner level will unlock this button.

# Obstacle Runner

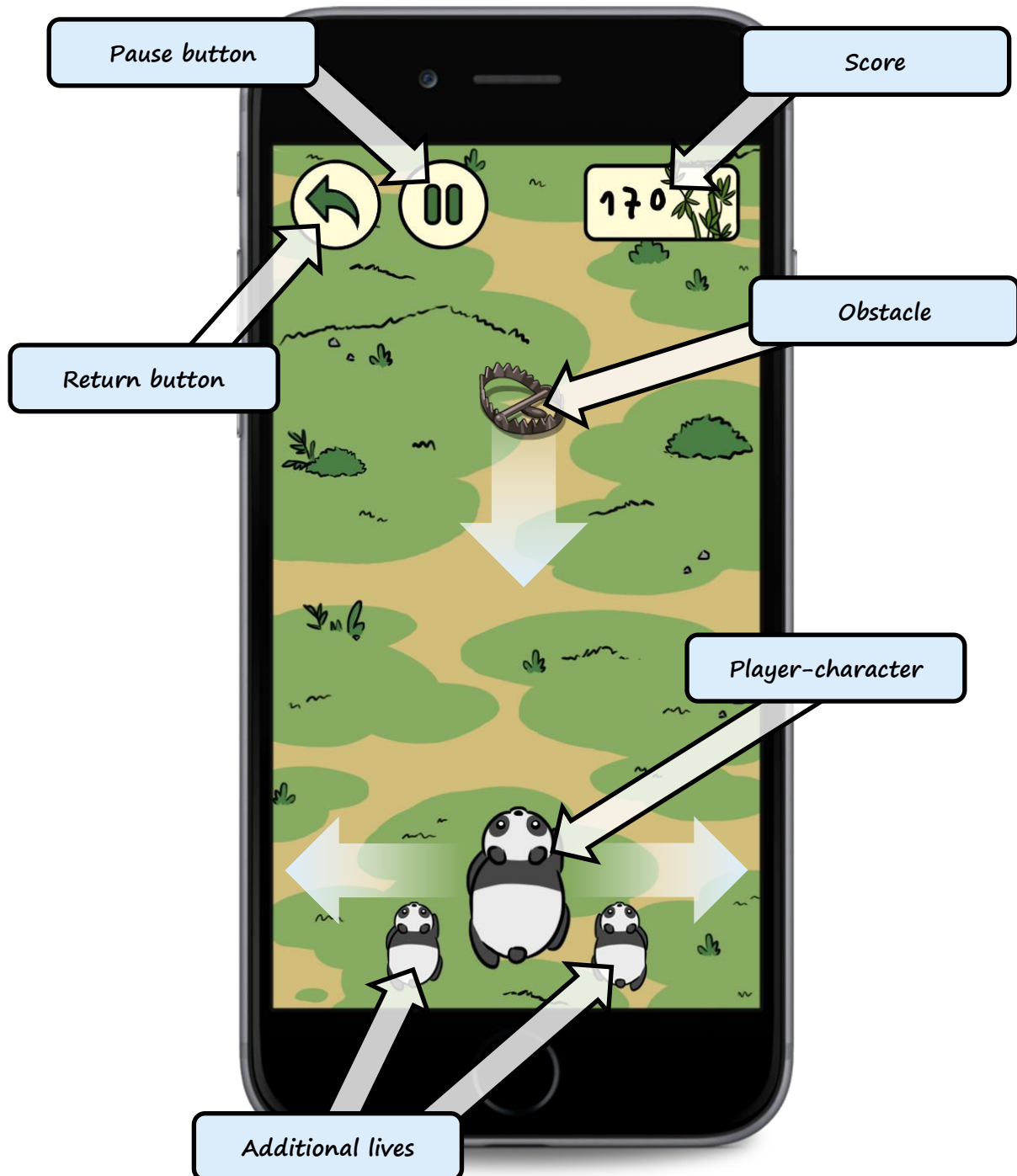


Figure 4. Zhen's obstacle runner level design




Tapping the “accept mission” button will activate Zhen’s obstacle runner level, which is illustrated in *Figure 4*. In the obstacle runner section of *KuoKoa*, the player sees the player-character and environment from a third person point of view from above. *Figure 4* demonstrates how the obstacle runner will look visually and exhibits its features. This is how these features will operate in the game:



- 🐾 **Return button:** Players can tap this button to return to the map. Returning to the map will result in the player losing the progress she has made in the current level.
- 🐾 **Pause button:** Players can tap this button to pause the game.
- 🐾 **Score:** This displays the number of **points** the player has earned so far. The value of the score is influenced by the player’s response to various **obstacles**.
- 🐾 **Obstacle:** Various **obstacles** travel towards the player-character from the top of the screen. They reflect the dangers faced by wildlife in real life. In this case, a bear trap is used to reflect the reality that giant pandas are targeted by poachers.
- 🐾 **Player-character:** In the Giant Panda level, the player controls Zhen. Zhen can move left and right. To move Zhen to the left, the player must swipe the screen from right to left. To move Zhen to the right, the player must swipe the screen from left to right.
- 🐾 **Additional lives:** Zhen is followed by her cubs, which represent the player’s additional lives. In *Figure 4*, as there are two cubs present, this means the player has three remaining lives altogether. When the player loses a life, a cub will travel off the screen.

The main objective of the obstacle runner is to overcome the incoming objects, which are relevant to the animal’s real life threats. They travel towards the player-character from the top of the screen. Successfully reacting to **obstacles** will reward the player. Failing to react to the **obstacles** appropriately may end in the player losing **points** or even a life. Each obstacle has its own unique effects and require different responses from the player, as explained in the following table (see *Table 1*):



**Table 1***Example objects found in Zhen's obstacle runner level*

Name	Image	Description	Effect	Player Response	Reward Value	Rarity
Bamboo		Bamboo, supplies of which are declining due to harvesting, is Zhen's favourite food. Zhen will reward the player with points if she is able to eat it.	Avoiding this object has no effect. Colliding with this object adds points to the player's score.	Swipe left or right to move into the path of the object	+50 points	Un-common
Golden Bamboo		Golden bamboo sparkles on the player's screen and looks very delicious to Zhen. Zhen will reward the player with points if she is able to eat it.	Avoiding this object has no effect. Colliding with this object adds points to the player's score.	Swipe left or right to move into the path of the object	+100 points	Rare
Rock		Big rocks can be found in Zhen's environment, they will hurt	Avoiding this object adds points to the player's score.	Swipe left or right to move away from	+10 points	Common

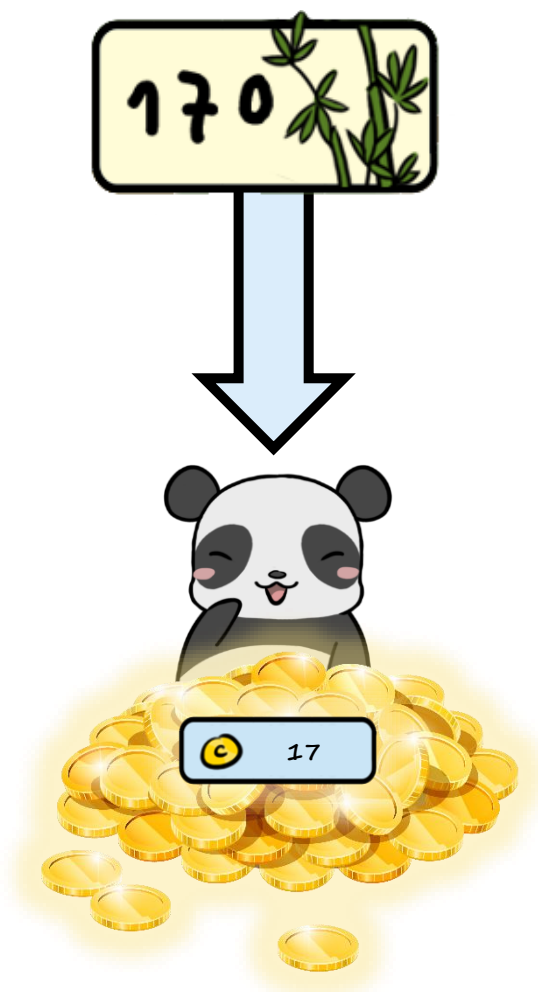
		her if she runs into one.	Colliding with this object removes one life from the player.	the path of the object		
Bear Trap		Poachers are unfortunately still targeting pandas for their skin. They may leave traps down like this one to capture Zhen.	Avoiding this object adds points to the player's score. Colliding with this object traps Zhen, preventing her from moving. If the player fails to respond quickly enough, the trap injures Zhen and one life is lost.	Swipe left or right to move away from the path of the object. If trapped, tap Zhen repeatedly to free her.	+10 points	Un-common
Trapped Giant Panda Cub		Poachers have trapped this poor panda cub. The player should try to free it.	Avoiding this object has no effect. Colliding with this object removes 100 points from the player's score.	Tap on the object to gain a life.	+1 life	Very rare

When all lives are lost, the player loses the level and must replay it from the beginning if she wants to attempt to save Zhen again. When all **obstacles** are overcome, the player wins and Zhen is saved. Zhen will now become available to interact with in the **Wildlife Sanctuary**, the virtual pet section of the game. Finishing Zhen's level will also unlock another area on the map and another animal to save.

After completing a level, the player is also rewarded with **coins**, which can be spent in the **Wildlife Sanctuary's** shop. **Points** scored in the obstacle runner are translated into **coins** every time the player completes a level using the following equation:

$$\text{Paw} \quad \text{Value of Points Scored in Obstacle Runner Level} \div 10 = \text{Number of Coins Rewarded}$$

For example, a score of 170 in the obstacle runner will award the player with 17 **coins**.





# Virtual Pet

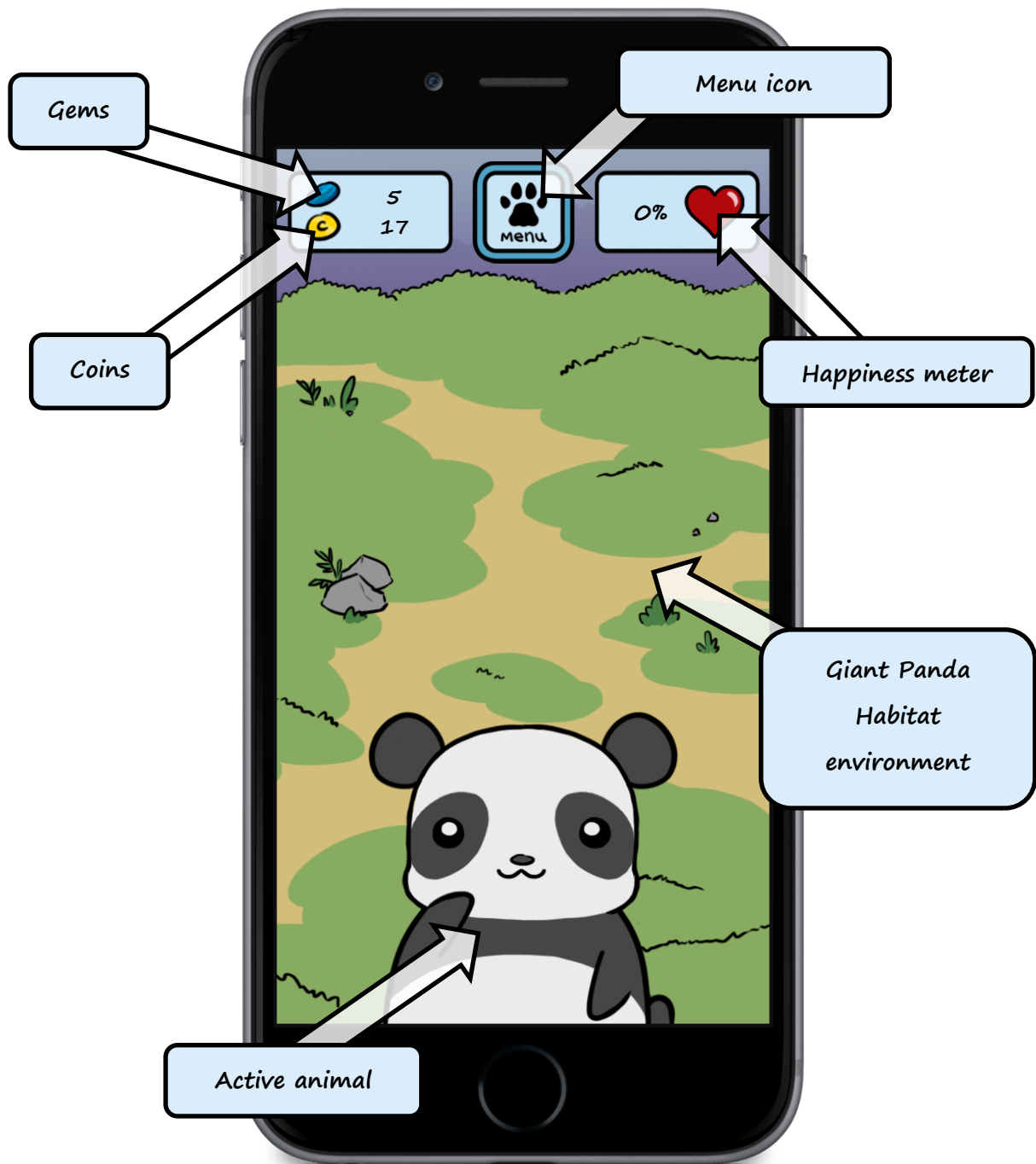


Figure 5. Giant Panda Habitat in the Wildlife Sanctuary

The **Wildlife Sanctuary** is where the player can interact with the wildlife she has saved in the obstacle runner levels in their relevant **habitats**. The player can visit Zhen in the Giant Panda **Habitat**, shown in *Figure 5*, by tapping on Zhen's icon on the **World Map** and then tapping the newly unlocked "Giant Panda **Habitat**" button. Currently, Zhen is the 'active' panda, which means she is in the foreground of the **habitat**. The main goal in the **Wildlife Sanctuary** is to increase the percentage displayed in the **happiness meter**, which starts at 0% when the **habitat** is first unlocked. Zhen's **happiness meter** can be boosted by giving her affection, unlocking more pandas, or by purchasing items for her and her **habitat**.

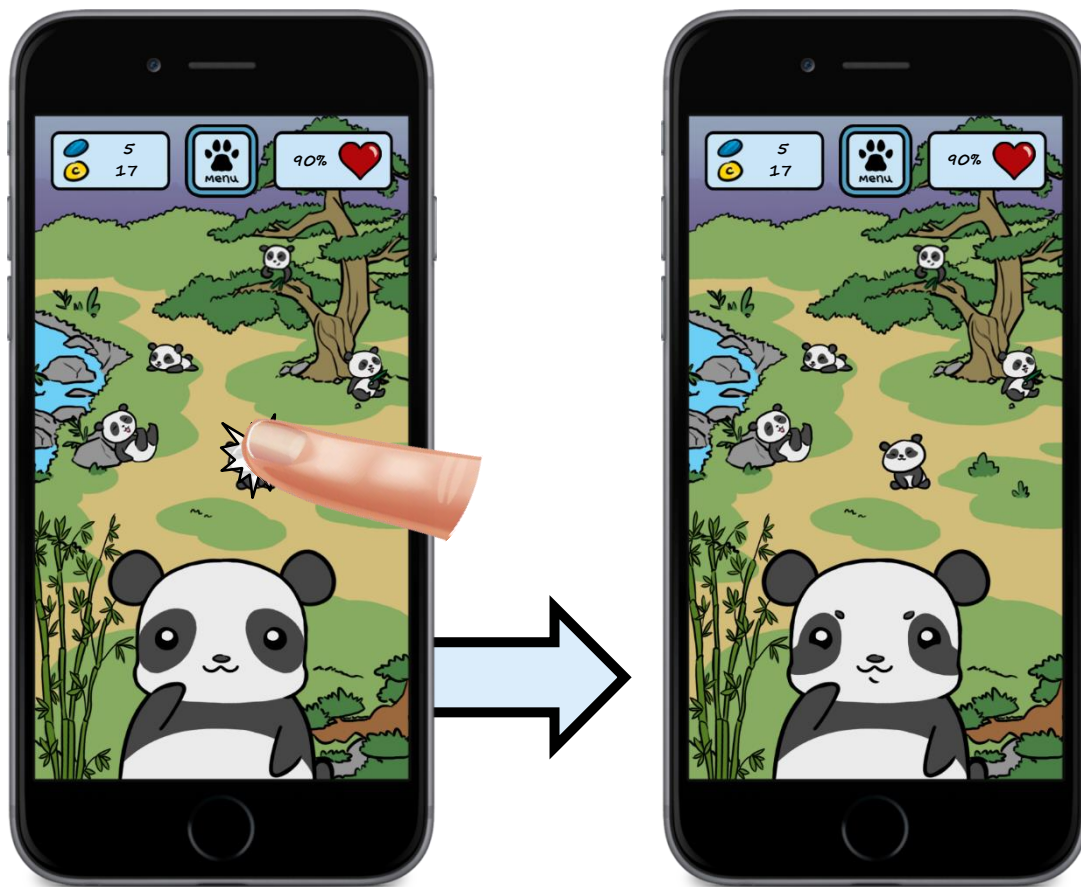
### Giving the animals affection



*Figure 6. The gesture the player can use to give Zhen affection.*

The player can give her rescued wildlife affection by tap-and-dragging in circular motions with her finger over the animal. *Figure 6* shows the player petting Zhen, this will give the **happiness meter** a small temporary boost of up to 10% on top of the existing value. This extra 10% will deplete gradually over 24 hours.

## Unlocking more animals



*Figure 7. Giant Panda Habitat with five more unlocked pandas. This figure also shows the process of switching the active panda.*

The player can unlock more pandas for the Giant Panda **Habitat** by replaying and completing the panda obstacle runner level again. Once unlocked, the new pandas will appear in the background of the Giant Panda **Habitat**. The player can select which individual panda she wants in the foreground (the 'active' panda) by using her finger to tap-and-hold the desired panda for one second. The differences in the pandas' appearances can range from a very subtle change in markings to a full recolour.



### Menu icon

In addition to petting Zhen and unlocking her friends, the player can increase her happiness through purchasing items. This, as well as other exciting features, can be accessed from the menu button at the top of the screen.



*Figure 8. Upgraded Giant Panda Habitat with the Menu window open*

Tapping on the menu button will open the window depicted in *Figure 8*. Interacting with these buttons will have the following outcomes:



**Home:** Players can tap this button to return to the map.



*Figure 9. Home option window*

When the player taps this button, the window will change to the one shown in *Figure 9* that asks the player to confirm the decision. Tapping 'yes' will send the player back to the **World Map** and tapping 'no' will return the player to the previous menu window.



**Camera:** Players can tap this button to take photos of the pandas in the **habitat**.



*Figure 10. A photo taken in the Giant Panda Habitat*



*Figure 11. The process of the player taking the photo in Figure 10*

When the player uses the camera tool, a transparent box will appear on the screen (see Figure 11), which the player can move (by dragging her finger on the screen) to the area she wants to capture. Tapping the box will take the photo. After the photo has been taken, the picture will appear in the respective panda's album which can be viewed via the Album and shared on social media.





**Daily:** Players can tap this button to open the Daily Rewards window.



*Figure 12. Daily Rewards window with 2 days checked*

This window lists the days of the week. A check mark will automatically appear upon opening the window next to the corresponding to the day it has been accessed. In the case of *Figure 12*, the player has visited the game and opened the daily rewards window two days in a row (on Monday and Tuesday). Tapping on the 'daily' button a certain number of days in a row will reward the player with **coins**. This is how the player will be rewarded:

- 🐾 Three days in a row:** The player will be rewarded with in-game currency (25 **coins**).
- 🐾 Five days in a row:** The player will be rewarded with a larger sum of in-game currency (50 **coins**).
- 🐾 Seven days in a row:** The player will be rewarded with an even larger sum of in-game currency (100 **coins**). After redeeming the reward after a streak of seven days, the streak resets.

If the player breaks the streak, there will not be a penalty but the streak will be reset to zero days.



**Shop:** When the player taps this button, it opens another window with additional options. These buttons provide the player with opportunities to spend their in-game currency, using either **coins** or **gems**. **Coins** are generated from completing obstacle



runner levels and **gems** can be acquired by donating to the WWF (10 **gems** per £1 donated). Some special items can only be purchased using **gems**.

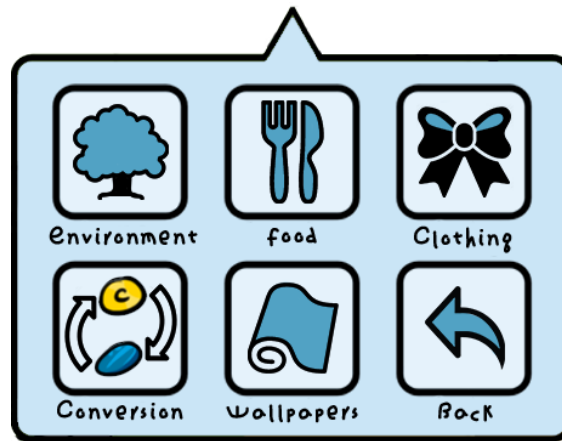


Figure 13. The options available within the Shop button.

This is what happens when the player taps the buttons in Figure 13:



**Environment:** Here the player can purchase environmental items in order to improve the Giant Panda **Habitat**, as well as expand the size of it.



Figure 14. Comparison of basic Giant Panda Habitat (left) and upgraded Giant Panda Habitat (right)



These items vary in terms of cost and how much it will boost the value of the **happiness meter**. More expensive items have a greater effect on the **happiness meter**. Expanded **habitats** will accommodate more items and more pandas.



**Food:** Here the player can purchase food items in order feed Zhen. Again, these items vary in terms of cost and how much it will boost the value of the **happiness meter**. More expensive items have a greater effect on the **happiness meter**.



**Clothing:** Here the player can purchase clothing items in order dress up the panda at the front (in this case, Zhen).



*Figure 15: Examples of clothing items that can be purchased for Zhen*

Like with food and environmental items, more expensive clothing items will have a greater effect on the **happiness meter**. Some clothing items are inspired by the animals' origins and the culture associated with that area, like Zhen's traditional Chinese Tang jacket (shown on the far right of *Figure 15*).



**Conversion:** Here the player can convert her in-game currency. She can do this by converting 100 **coins** in her inventory for 1 **gem** or vice versa.



**Wallpapers:** Here the player can purchase wallpapers to download to their devices. These vary in price but do not have an impact on Zhen's **happiness meter**. Instead,

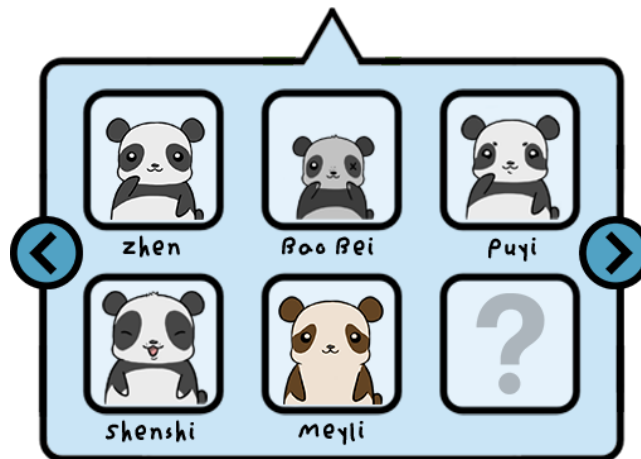
they act as collectibles. The wallpapers vary in design and feature real Giant pandas that the WWF are trying to protect.



**Back:** Players can tap this button to return to the Menu window.



**Album:** Players can tap this button to open a new window. Here she will be able to access the biographies and photos of the pandas that reside in the Giant Panda **Habitat**.



*Figure 16. Selection of pandas available in the Album*

Once a panda has been saved in the obstacle runner, it will automatically be added to the album. In this window, the player will be able to see portraits of the pandas alongside their names, as shown in *Figure 16*. Each of these characters reflects a real-life panda under the care of the WWF. If the player taps on one of them, she will be navigated to that panda's individual biography. This will consist of details of their personality and backstory, the number of days they have inhabited the **Wildlife Sanctuary**, and the photos the player has taken of them.

This is a glimpse of the information the player will find in Zhen's biography:



*Zhen is a giant panda: she lives in China where she is only one of about 1,860 giant pandas left in the wild today.*

*Zhen is lucky, however: the giant panda conservation efforts have removed them from the endangered list, to the less severe 'threatened' category. This success shows how conservation efforts and the work that the WWF carry out are so important to continue.*

*The giant pandas' biggest threats come from a loss of food supplies, due to harvesting by humans; fragmentation of their habitat with the building of roads and railways that are cutting through their forest homes; and, unfortunately, they are still victims of poachers who want their skin.*

**Did you know?** *Giant pandas are great swimmers, and Zhen loves going for a dip in the water every so often!*



**Updates:** Players can tap this button to access updates on what the WWF are doing in terms of conserving endangered animals and the progress they are making.

*Remember! There are many different Habitats to unlock.*



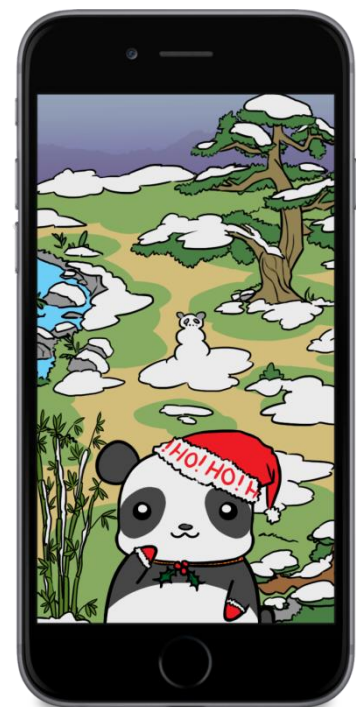
*Players can unlock my Penguin Habitat later in the game after saving me in the obstacle runner!*

# Achievements and Rewards

As mentioned in the previous chapter, players are rewarded with new characters for each **habitat** if they replay levels they have already completed. In addition, if they visit *KuoKoa* multiple days in a row, they are rewarded with **coins** to spend in the **Wildlife Sanctuary** shop. *KuoKoa* also rewards players with special items for performing favourable tasks:



To reward players for returning to *KuoKoa* at certain times of the year, there will be collections of items that are only available for purchase for a limited period of time. These items will be associated with a holiday or festival that is taking place, like Christmas (see *Figure 17*).



*Figure 17. Panda Habitat with Christmas themed items*

🐾 **WWF member exclusive items:**

Players who choose to 'adopt' endangered animals for real, through purchasing a WWF membership, will be able to redeem unique content for their game that is not available any other way. These exclusive rewards are to encourage players who can donate to the charity regularly.



## Sample Levels

Each level in *KuoKoa* presents the player with a different endangered animal to save. This chapter will introduce a few more examples of characters from other species that will feature in *KuoKoa*:



**Name:** Yuka

**Species:** Polar Bear

**Biography:** Yuka is a polar bear. Polar bears are only found in the Arctic regions. Sadly, polar bear numbers are estimated to decline by 30% by 2050 so they need our support to thrive.

Yuka usually lives and hunts alone but she also has to raise her young following a long hibernation period. Declining sea ice means that finding food to keep herself and her cubs alive is getting harder and harder.

Alongside climate change and the melting sea ice, polar bears' main threats are human-bear conflict, where bears are being forced closer to human habitation and often resort to scavenging to survive.

*Did you know?* Polar bears have an incredible sense of smell and can detect the presence of a seal – their favourite food – when swimming in the water under a metre of compacted snow up to a kilometre away!



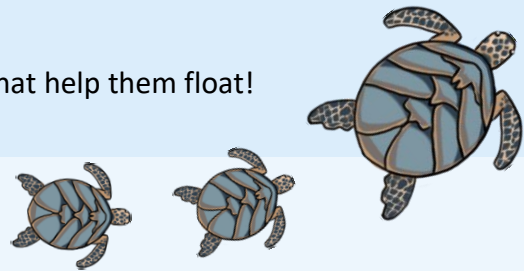
**Name:** Wayan

**Species:** Hawksbill Sea Turtle

**Biography:** Wayan is a hawksbill sea turtle, and he's already battled enormous odds to be here: it's estimated that only around one in 1,000 turtle hatchlings make it to adulthood!

Wayan's troubles haven't stopped there however – his species is at risk of extinction and every day he faces dangers, such as fishing nets, pollution and poaching. Alongside this, development of coastlines means female turtles are struggling to find safe places to lay their eggs during breeding season.

*Did you know?* Turtles have light, spongy bones that help them float!



**Name:** Jules

**Species:** Adélie Penguin

**Biography:** Jules is an Adélie penguin, the littlest penguin species in the Antarctic where he lives with his friends.

Jules is fearless in protecting his penguin family from danger: he will not hesitate to chase off seals and large seabirds if necessary to protect them. There are some threats, however, that Jules can't fight off no matter how brave he is.

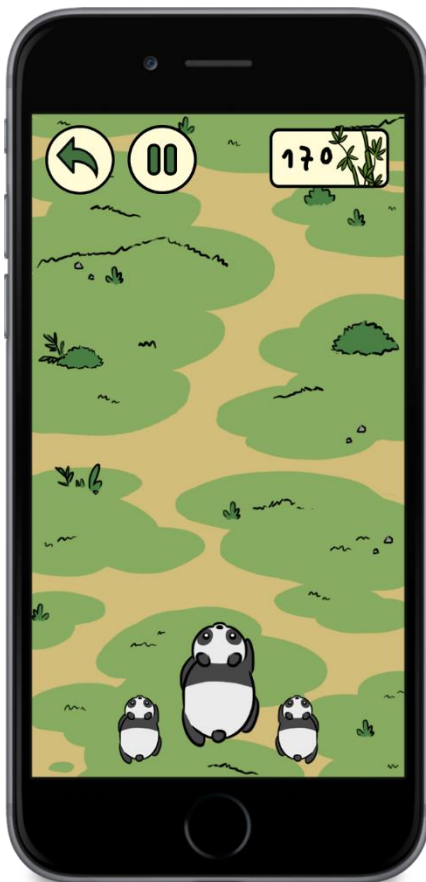
Climate change is the biggest threat to Adélie penguins as they are not well adapted to warmer climates like some other penguins. Climate change is also affecting the availability of krill, the penguin's main source of food.

*Did you know?* Adélie penguins are excellent swimmers and can dive down to 180 metres searching for food!



## 10 minutes of Play

 What is it like to play the first 10 minutes of *KuoKoa*?



In the first level of *KuoKoa*, the player plays as Zhen, the Giant Panda. This level acts as a tutorial and will help the player get to know the controls. Zhen will communicate hints and tips as the level progresses through dialog boxes that will appear on screen. When Zhen gives the player instructions, the game will pause until the player completes the correct gesture. This will allow the player to learn and make errors without experiencing a penalty. The game will then force the player to collide with a rock obstacle to teach the player the consequences of failing to avoid **obstacles**. Next, a bamboo obstacle will appear so the player can learn about the point system. Finally, a new cub will travel towards the player so the life that was lost can be regained. After the tutorial is finished, the level will continue without any prompts from Zhen. It will not be hard to complete this level. The **obstacles** (described in *Table 1*) will travel slowly and one at a time.




🐾 What is it like to play the middle 10 minutes of *KuoKoa*?





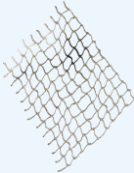
About half way through the player's experience of *KuoKoa*, the player will take control of Wayan, the Hawksbill Sea Turtle, in his level under the sea. This level will be much more challenging than Zhen's level and it will be suitable for players who are used to *KuoKoa*'s controls. The player will probably fail a couple of times before she is able to complete this level. The **obstacles** encountered in Wayan's level will be faster and more frequent and difficult to overcome. However, the toughest **obstacles**, such as the fishing net, will appear fairly rarely to balance out the difficulty. The space that can be used to avoid **obstacles** will be more limited than before (due to the increase in oncoming **obstacles**), meaning the player will have to tackle the **obstacles** with the appropriate gesture more often instead of simply moving out of the way. Please see *Table 2* below to learn about of some of the **obstacles** that will appear in Wayan's level:


**Table 2**

*Example objects found in Wayan's obstacle runner level*

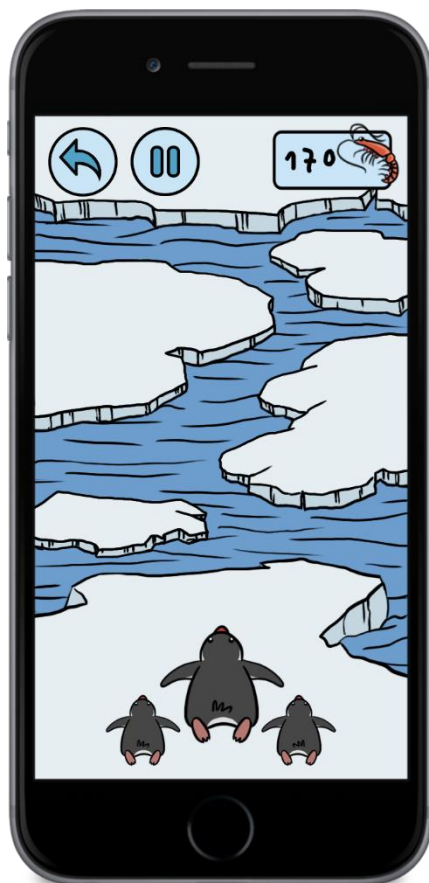
Name	Image	Description	Effect	Player Response	Reward Value	Rarity
Seaweed		Wayan finds seaweed tasty. Wayan will reward the player with points if he is able to eat it.	Avoiding this object has no effect. Colliding with this object adds points to the player's score.	Swipe left or right to move into the path of the object	+50 points	Un-common



Golden Seaweed		Golden seaweed sparkles on the player's screen and looks very delicious to Wayan. Wayan will reward the player with points if he is able to eat it.	Avoiding this object has no effect. Colliding with this object adds points to the player's score.	Swipe left or right to move into the path of the object	+100 points	Rare
Trash		Humans throw their unwanted waste into the sea. Trash like this can hurt Wayan if he collides with it.	Avoiding this object adds points to the player's score. Colliding with this object removes one life from the player.	Swipe left or right to move away from the path of the object	+10 points	Common
Fishing Net		Turtles often become trapped in fishing nets when they swim to the surface to breathe. The player needs to help keep Wayan safely	A fishing net will occupy a portion of the screen, restricting Wayan's movement and making it harder to avoid other obstacles.	Remain in the unoccupied area of the screen.	N/A	Rare




		away from them.				
Trapped Baby Turtle		This baby turtle has become trapped in a plastic bag. The player should try to free it.	Avoiding this object has no effect. Colliding with this object removes 100 points from the player's score.	Tap on the object to gain a life.	+1 life	Very rare



### What is it like to play the last 10 minutes of *KuoKoa*?



Jules' obstacle runner level is the hardest level the player will encounter in *KuoKoa*. It will take many attempts to complete this level. There is an added control that allows the player to leap over the gaps in the ice. To leap over the gaps, the player must swipe upwards (this will only work when leaping over water, not any other obstacle). There will be a high probability of the most dangerous **obstacles** spawning and these will travel towards the player at a much faster pace than previous levels. Also, beneficial **obstacles** will be much rarer. So, if the player loses a life, it is unlikely she will be able to gain it back. However, there are a lot of **points** to be won if the player manages to complete this level so it is worth persevering with the level until the end. Please view *Table 3* on the following page for more information on the **obstacles** that will feature in Jules' level:

**Table 3***Example objects found in Jules' obstacle runner level*

Name	Image	Description	Effect	Player Response	Reward Value	Rarity
Krill		Krill, supplies of which are declining due to overfishing, is Jules' favourite food. Jules will reward the player with points if he is able to eat it.	Avoiding this object has no effect. Colliding with this object adds points to the player's score.	Swipe left or right to move into the path of the object	+100 points	Rare
Golden Krill		Golden krill sparkles on the player's screen and looks very delicious to Jules. Jules will reward the player with points if he is able to eat it.	Avoiding this object has no effect. Colliding with this object adds points to the player's score and removes all harmful obstacles from the screen	Swipe left or right to move into the path of the object	+200 points	Very Rare
Iceberg		Icebergs can be found in Jules' environment, they will hurt	Avoiding this object adds points to the player's score.	Swipe left or right to move away from	+10 points	Common

		him if he runs into one.	Colliding with this object removes one life from the player.	the path of the object		
Hole in the Ice		Climate change causing sea ice loss so there is lots of open water that Jules needs to avoid. Sometimes extra holes will suddenly appear in the ice without warning.	Avoiding this object adds points to the player's score. Colliding with this object removes one life from the player.	Swipe left or right to move away from the path of the object or swipe upwards to leap over it.	+20 points	Common
Drowning Baby Penguin		This poor baby penguin is struggling to stay afloat in the water. The player should try to save it.	Avoiding this object has no effect. Colliding with this object removes one life from the player (because Jules will fall into the water).	Tap on the object to gain a life.	+1 life	Extremely Rare



Through *KuoKoa's* focus on raising awareness of global conservation issues and the threats being faced by wildlife, we hope to encourage players to consider supporting WWF as a charity to enable them to carry on their work. Regular giving enables charities to plan spending and funding more efficiently than one-off, irregular donations, so building a supporter base of people who will give regularly is an important aim.

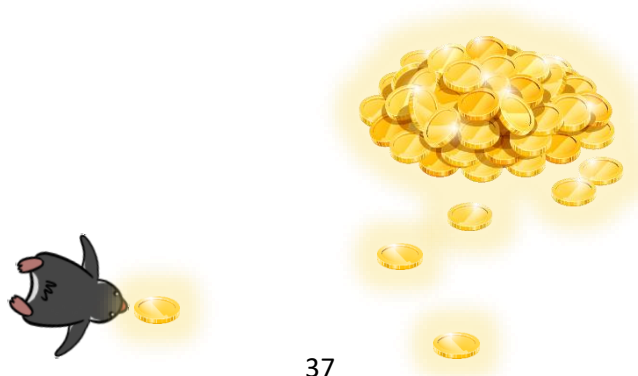
With this in mind, we have decided to follow the free download and play model for the game. Alongside in-app purchases, we will focus on in-game benefits for players who are members of WWF or adopters of WWF wild animals – such as secret levels, special animals or unique items – that you can unlock with your WWF membership code. The free-app, in-app purchase model gains the greatest revenue shares in the UK mobile games market (accounting for 76%). Therefore, it is a familiar model for mobile gamers to engage with (Ukie, 2015).

We anticipate four main ways for the WWF to gain revenue directly or indirectly through *KuoKoa*:

- 🐾 In-app purchases
- 🐾 WWF membership benefits
- 🐾 Adoption promotions through the **Wildlife Sanctuary**
- 🐾 Text-giving link ups



We envisage the donation advertising in the game to be non-intrusive, especially as our target demographic is older children, but easy enough to find for people who are keen to donate.





- 🐾 WWF would initially pay for the development of *KuoKoa* as a standalone base game at £84,000 for three months' work (see Table 4 below).
- 🐾 WWF would be entitled to full profits from game.
- 🐾 The option would be then to rehire the developers at a fixed fee for ongoing support and maintenance; continuous improvement and development; seasonal promotions or campaigns; or additional art or design work.
- 🐾 The original developers would expect to get first refusal on future development work on *KuoKoa*.



**Table 4**

*Breakdown of budget for the KuoKoa base game, calculated using an online resource (ASFB, 2017)*

Required Resources		Cost for 3 months (£)	Includes...	Cumulative Total (£)
Employees	Producer	17,000	Salaries and benefits	17,000
	Artist	16,500		33,500
	Programmer	16,500		50,000
	Technical Designer	16,500		66,500
Studio in London		7,500	Rent, bills, and internet	74,000
Equipment and Licenses	Hardware	5,000	PCs, consoles, tablets, and peripherals	79,000

	Software	2,000	Pro Licenses, eg. Clickteam Fusion, Adobe Creative Cloud, Microsoft Office etc.	81,000
External Specialist Skills	HR and Legal	1,000	HR specialist costs and expenses, legal costs and expenses	82,000
	Accounts	1,000	Accountant costs and expenses	83,000
	Playtesters	1,000	Playtesters' expenses	84,000
 <b>Grand Total:</b>				<b>84,000</b>

The developers of *Shovel Knight* (Yacht Club Games, 2014), have created a formula for devising a budget for a game. The formula states that it costs around \$10,000 per person per month to develop a game, including salaries and tertiary costs (Pearson, 2014). According to Yatch Club Games' formula, this could mean that three months of work to develop *KuoKoa* may cost approximately \$120,000 (just over £98,000). This figure is not too far from the original estimate of £84,000, so we can be reasonably confident in the accuracy of our budget.



- 🐾 Expand the animal range to include birds and insects.
- 🐾 Introduce a social feature where you can visit friends' conservation areas and leave gifts / feed animals.
- 🐾 Work with WWF to implement special features and limited edition animals and items for special campaigns.



<b>Coins</b>	In-game currency you earn through completing levels.
<b>Gems</b>	In-game currency you earn from donating to WWF.
<b>Habitats</b>	Areas for individual animal species within the Wildlife Sanctuary, representing real world environments the species inhabits.
<b>Happiness Meter</b>	The visual display of happiness of the animals in the Wildlife Sanctuary.
<b>Obstacles</b>	An in-game representation of the dangers facing the wildlife in real life.
<b>Points</b>	Points are gained by playing through levels in the obstacle runner and are then transferred to the Wildlife Sanctuary.
<b>Wildlife Sanctuary</b>	The overall gamespace for the virtual pet game.
<b>World Map</b>	The graphical interface players use to select levels and habitats.





APA 6<sup>th</sup> Edition

ASFB. (2017). *True Cost of an Employee Calculator*. Retrieved January 17, 2017 from <http://www.accountingservicesforbusiness.co.uk/calculators1/true-cost-of-an-employee/>

*Bamboo.PNG* [Online image]. Retrieved December 12, 2016 from <http://vignette4.wikia.nocookie.net/bzpowercircle/images/7/78/Bamboo.PNG/revision/latest?cb=20100618000039>

*Bear\_Traps-icon.png* [Online image]. Retrieved December 12, 2016 from [http://vignette3.wikia.nocookie.net/frontierville/images/1/1e/Bear\\_Traps-icon.png/revision/latest?cb=20110719141206](http://vignette3.wikia.nocookie.net/frontierville/images/1/1e/Bear_Traps-icon.png/revision/latest?cb=20110719141206)

*Coins-PNG-Pic.png* [Online image]. Retrieved January 15, 2017 from <http://www.pngall.com/coins-png>

Deloitte. (2016). *Predictions 2016: Mobile games: leading, but less lucrative*. Retrieved January 12, 2017 from <https://www2.deloitte.com/global/en/pages/technology-media-and-telecommunications/articles/tmt-pred16-media-mobile-games-leading-less-lucrative.html>

DIGITALWIDERESOURCE. (2017). *Plastic Bag* [Online image]. Retrieved January 16, 2017 from <http://digitalwideresource.deviantart.com/art/Plastic-Bag-374262825>

DragonArtz Designs. (2009). *Bamboo Seamless Background Vector* [Online image]. Retrieved December 12, 2016 from <https://dragonartz.wordpress.com/2009/04/06/bamboo-seamless-background-vector/>

Frogmind Games. (2013). *Badland* [Video game]. Helsinki, Finland: Frogmind Games.

*HD Bamboo Background* [Online image]. Retrieved December 13, 2016 from <http://www.pixelstalk.net/hd-bamboo-backgrounds-download/>

Hit-Point. (2014). *Neko Atsume: Kitty Collector* [Mobile game]. Japan: Hit-Point Co., Ltd.

Imangi Studios. (2011). *Temple Run* [Mobile game]. Raleigh, NC: Imani Studios.

ISFE. (2016). *GameTrack Digest: Quarter 1 2016* [PDF file]. Retrieved December 12, 2016 from [http://www.isfe.eu/sites/isfe.eu/files/attachments/gametrack\\_european\\_summary\\_data\\_2016\\_q1.pdf](http://www.isfe.eu/sites/isfe.eu/files/attachments/gametrack_european_summary_data_2016_q1.pdf)

LFIdnl. (2008). *Antique pillar* [Online image]. Retrieved January 15, 2017 from <https://openclipart.org/detail/177883/antique-pillar>

Niantic. (2016). *Pokémon GO* [Mobile game]. San Francisco, CA: Niantic.

Pearson, D. (2014). Shovel Knight devs break down costs, sales. *Games Industry*. Retrieved January 17, 2017 from <http://www.gamesindustry.biz/articles/2014-08-06-shovel-knight-devs-break-down-costs-sales>

PEGI. (2015). *About PEGI?: What do the labels mean?*. Retrieved January 12, 2017 from <http://www.pegi.info/en/index/id/33/>

Sonders, M. (2016). New mobile game statistics every game publisher should know in 2016. *SurveyMonkey Intelligence*. Retrieved January 12, 2017 from <https://www.surveymonkey.com/business/intelligence/mobile-game-statistics/>

Ukie. (2015). *UK Video Games Fact Sheet* [PDF file]. Retrieved January 12, 2017 from <http://ukie.org.uk/sites/default/files/UK%20Games%20Industry%20Fact%20Sheet%2021%20December%202016.pdf>

[Untitled illustration of a fishing net]. Retrieved December 16, 2017 from <http://www.circularocean.eu/wp-content/themes/circular-ocean/inc/img/net-float.png>

[Untitled illustration of an iceberg]. Retrieved December 16, 2017 from <https://pixabay.com/p-576674/>

[Untitled illustration of an ice fishing hole]. Retrieved December 16, 2017 from [http://vignette3.wikia.nocookie.net/clubpenguin/images/a/a9/Ice\\_Fishing\\_Decal.png/revision/latest?cb=20130629062836](http://vignette3.wikia.nocookie.net/clubpenguin/images/a/a9/Ice_Fishing_Decal.png/revision/latest?cb=20130629062836)

[Untitled illustration of a rock]. Retrieved December 12, 2016 from <http://images.clipartpanda.com/rock-clipart-alpine-landscape-rock-rubble-01b-al1.png>

[Untitled illustration of a tin can]. Retrieved December 16, 2017 from [https://img.clipartfest.com/d53234ab7bc67c20b4c3a16e94374cdb\\_can20clipart-can-clipart-be-used-commercially\\_1568-2211.png](https://img.clipartfest.com/d53234ab7bc67c20b4c3a16e94374cdb_can20clipart-can-clipart-be-used-commercially_1568-2211.png)

[Untitled illustration of a wave]. Retrieved December 16, 2017 from <https://s-media-cache-ak0.pinimg.com/originals/b8/2e/1f/b82e1f182b15c6d64ab72927656f19f2.png>

[Untitled photo of an iPhone 6 template]. Retrieved December 13, 2016 from <http://quaimessier.com/concrete/images/devices/iphone/iphone6.png>

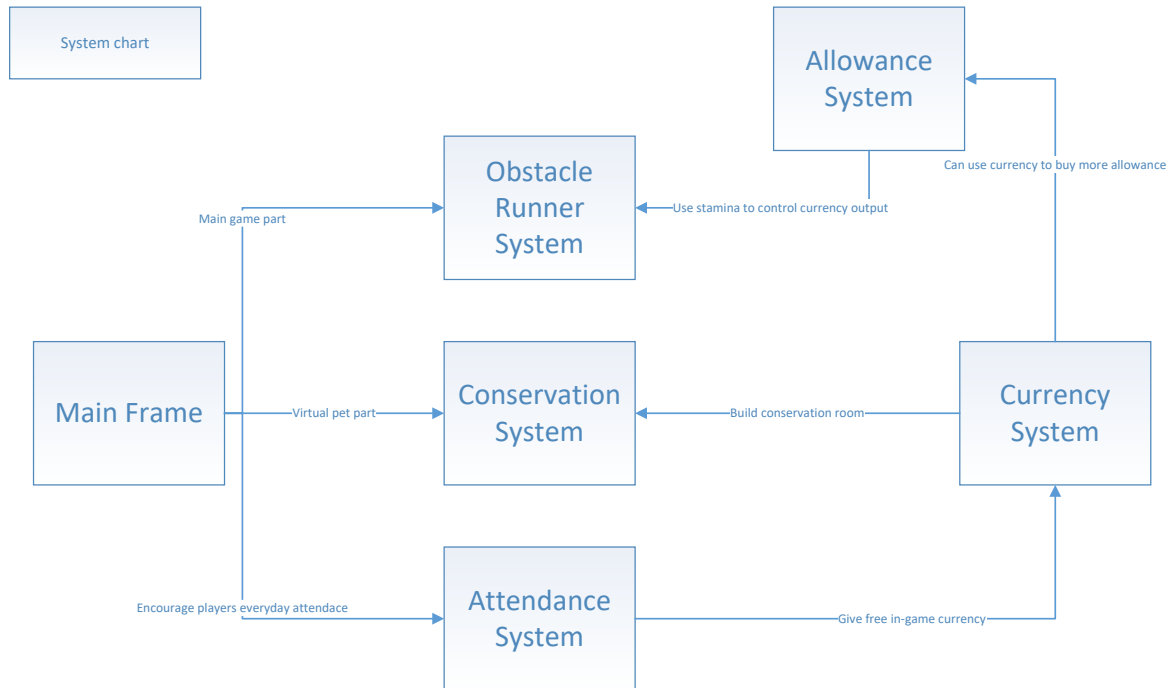
WWF. (2016). *Panda numbers up – threat level down*. Retrieved January 15, 2017 from <https://www.wwf.org.uk/updates/panda-numbers-threat-level-down>

WWF Logo [Online image]. Retrieved December 13, 2016 from [https://www.wwf.org.uk/sites/default/files/wwf\\_logo\\_full.svg](https://www.wwf.org.uk/sites/default/files/wwf_logo_full.svg)

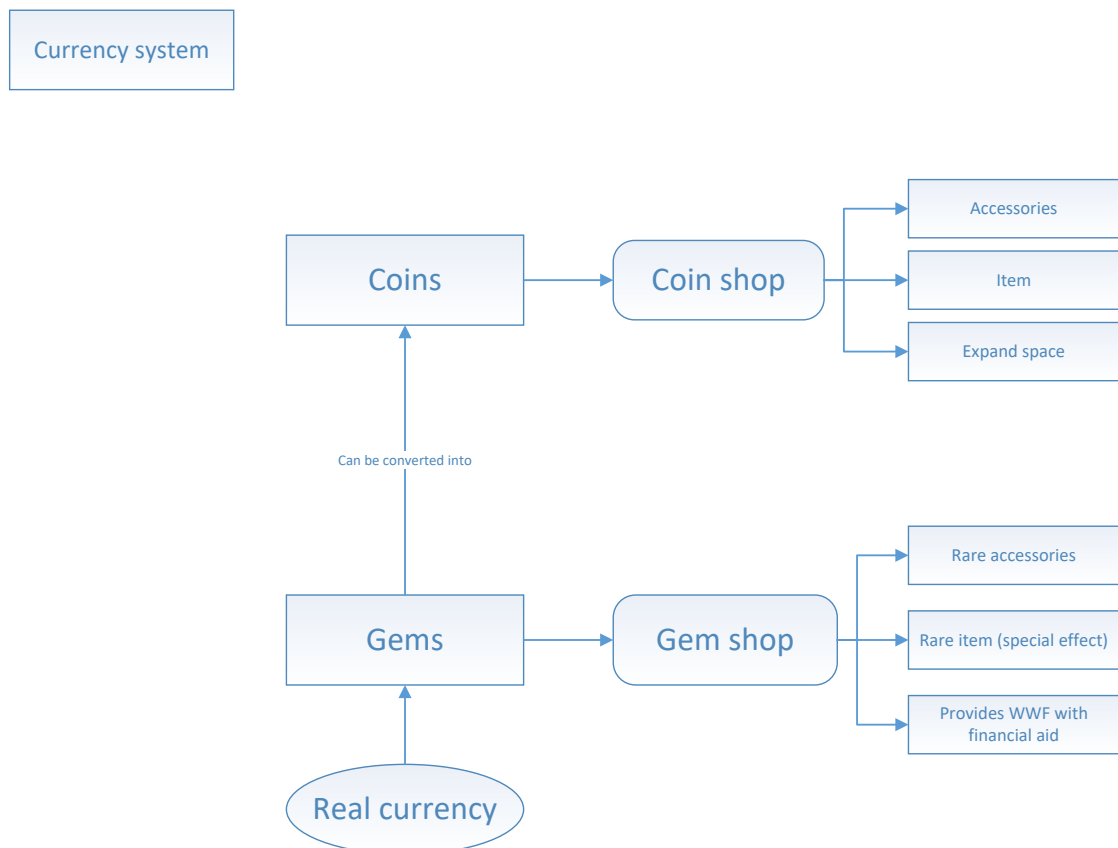
Yacht Club Games. (2014). *Shovel Knight* [Video game]. Valencia, CA: Yacht Club Games.

# Appendix

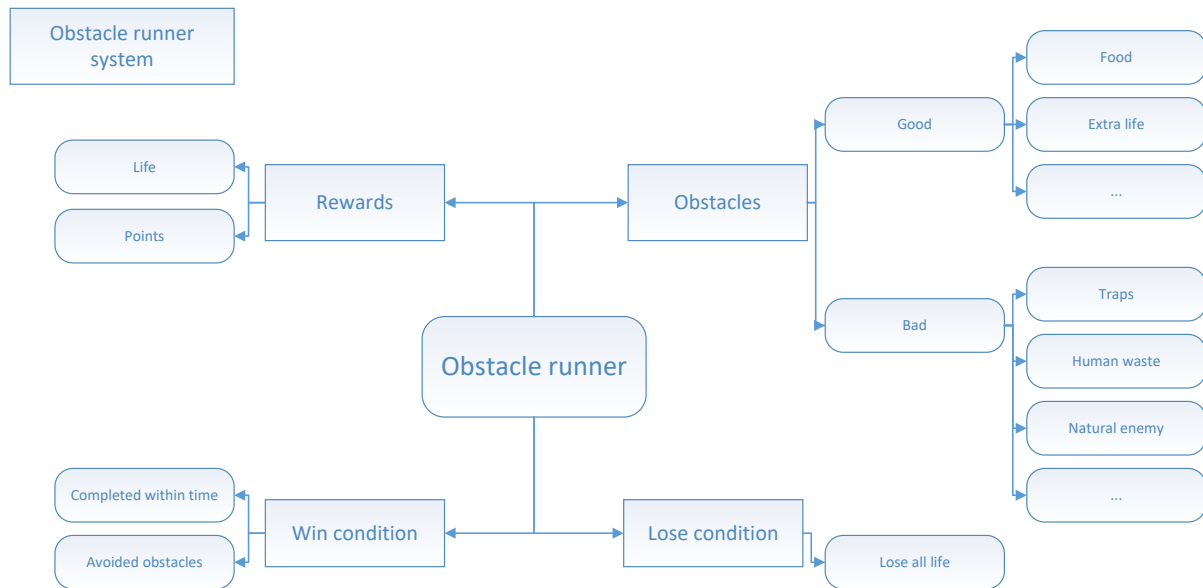
## 1.1. Diagram depicting the relationships between the main mechanics systems in KuoKoa.



## 1.2. Diagram depicting the relationships between mechanics in KuoKoa's currency system.



1.3. Diagram depicting the relationships between mechanics in KuoKoa's obstacle runner system.



1.4. Diagram depicting the relationships between mechanics in KuoKoa's virtual pet system.

