

**Green Kangaroo**  
**Game Design Document**  
**[iPhone Game Programming]**



**James Hosking, Greg Loudon & Daniel Roperto**

# Executive Summary

Green Kangaroo is an iPhone game developed to illustrate the impact of people upon biodiversity, through reflecting their impact on a virtual kangaroo virtual pet. **The objective of Green Kangaroo is to make players understand that their travel, consumption and eating habits have a direct impact upon Australia ecological and biological diversity.** The game consists of two modes of game play. The first being a virtual pet state inspired by Aki Maita's "Tamagotchi" in which the player can interact with their pet through feeding it, giving their kangaroo boxing gloves and so on. The second mode is a quiz state where after a certain amount of time players will be asked questions to ascertain their impact on the environment.

Upon answering the questions their virtual kangaroo will change. Based on the answers the virtual kangaroo will have four states. The states will consist of "Happy", "Content", "Sad" and even "Dead". Based upon the state the kangaroo will appear to be visibly sick from the players living habits, and will be unable to perform certain activities that are doable in a better environment. As well as changing the virtual pets, the background demonstrating ecological integrity and degradation. Upon having the players impact illustrated to them, the game will also contain information on how to decrease their biological impact and other tips to ensure sustainable development and the future generations have the same opportunities as the present.



*Visual Prototype of Green Kangaroo*

## Objective

The objective of the game overall is to keep your kangaroo alive through answering the right answers to the environmental questions. Even though people will often not have done the specified answers to keep their kangaroo alive, it will imply the changes needed to a person's lifestyle to maintain Australia's biological and ecological integrity.

The aim overall is to provide a meaningful, deceptively complex statement about the current Australian environmental degradation as a result of the typical Australian lifecycle. The experience of seeing the virtual pet die from a person's living habits will be quite a shock and hopefully force to consider their environmental impact.

## Influences

The key influences to Green Kangaroo are god and virtual pet games. Both of the game genres allow a player to construct and manage a simulation of an environment and its inhabitants. Similarly Green Kangaroo allows the player to create a virtual pet, manage its life without a distinct end goal, but rather a focus on the attainment of maintaining a level of success.

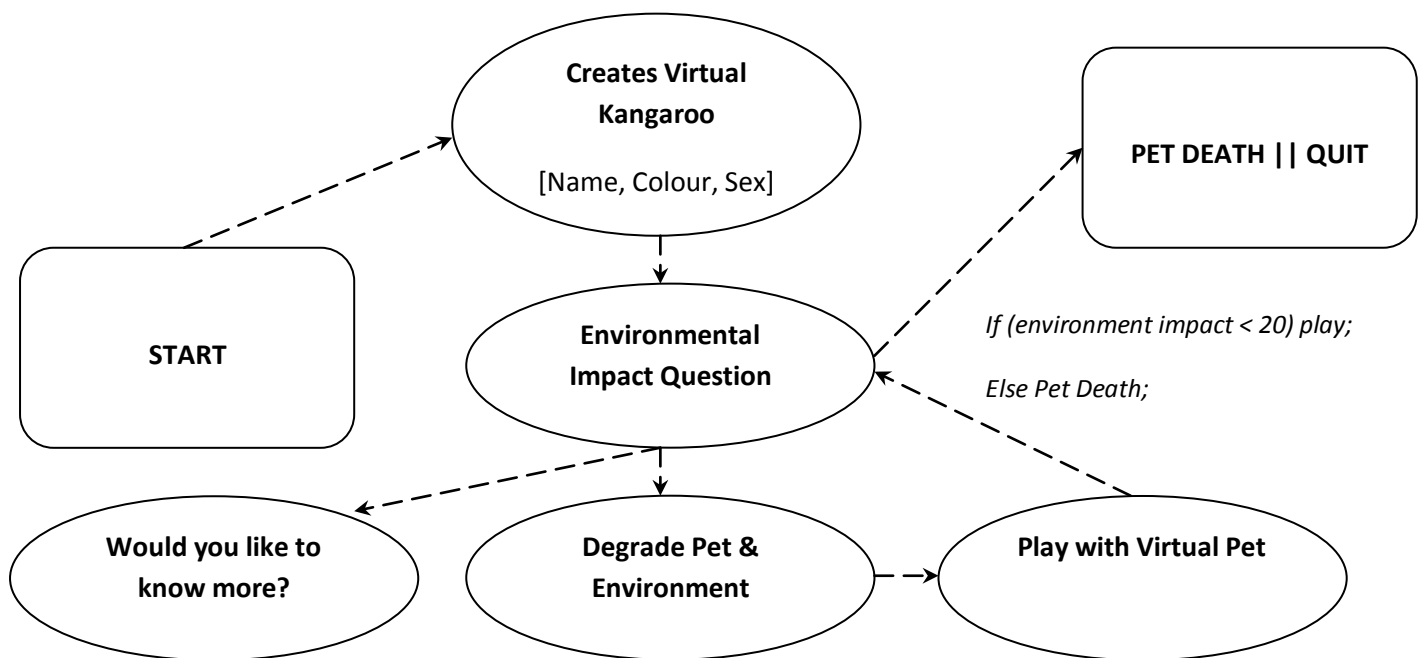
Specific examples of games that have influence the design of the game in particular are the "Tamagotchi" handheld digital pet created by Aki Maita, the computer game "Petz" by P.F. Magic in 1995 and the more recent iPhone game "Pocket God" by Bolt Creative in 2009. The "Tamagotchi" and "Petz" informed the virtual pet game play whereas the game "Pocket God" motivated the interaction techniques and "Environmental Game Play" mechanic. The ideas from these games were enthused together with a focus on both ecological and biological integrity to create Green Kangaroo.



*Petz, Pocket God and the Tamagotchi (Left to Right)*

# Game Play Structure

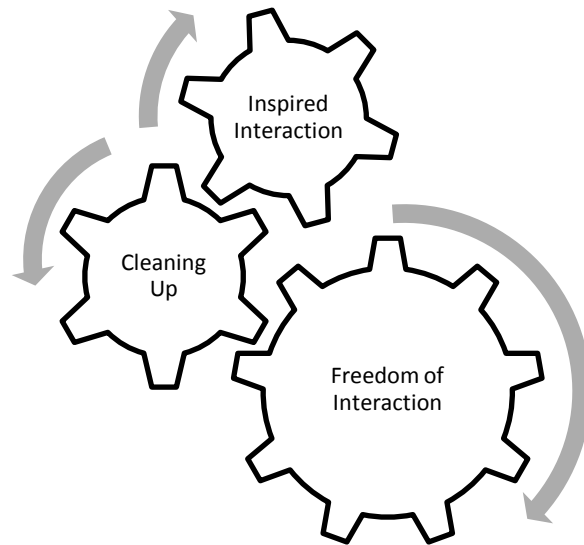
As mentioned above the game play structure of Green Kangaroo is the combination of “Tamagotchi” game play with multiple choice questions dispersed to cause the status of the virtual pet to change. The game will only end if the virtual kangaroo is killed due to the players’ lifestyle of consumption and environmental degradation. Hence if the player chooses to live or answer the questions with their impact on the environment being considered the game could be played until the iPhones battery runs out.



*Green Kangaroo High Level Structure*

## Tamagotchi Game play

The “Tamagotchi” game play will allow the player to interact with their virtual pet in a variety of ways using the iPhone touch screen and accelerometer. The key mechanics will be “Freedom of Interaction”, “Inspired Interaction” along with “Cleaning Up”. The “Freedom of Interaction” will allow the player to play with their pet in a range of ways without instruction allowing an openness of interaction to be achieved. The “Inspired Interaction” will be when the virtual pet inspires the player to interact with it in a certain way (e.g. falling asleep, wanting food and so on). Finally the “Cleaning Up” game play will allow the player to heal and renew their pet following their environmental choices reflect upon their pet.



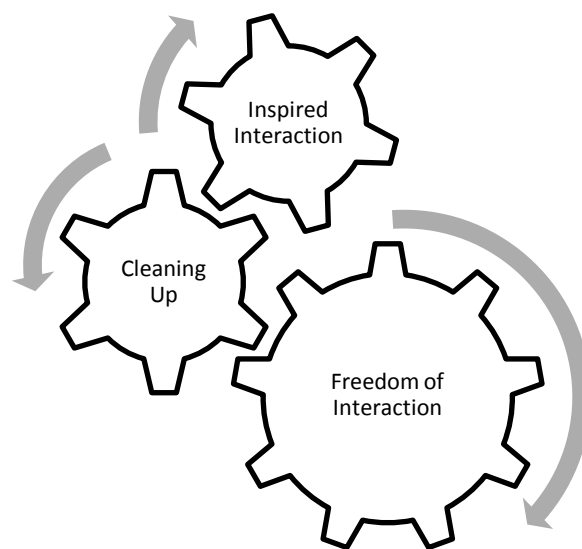
*Green Kangaroo Tamagotchi Game Play Mechanics*

The player will interact within these three game play mechanisms using a menu that will have different items that similar to a “Tamagotchi” cause the pet to animate in a specific way. Overall the game play is incredibly simple but it does have a surprising amount of depth in which players will feel as if their iPhone has a living pet in it.

Mechanic	Interaction Examples
<b>Freedom of Interaction</b>	<ul style="list-style-type: none"> <li>○ Boxing Gloves [Drag Item onto Pet]               <ul style="list-style-type: none"> <li>● Causes Pet to Air Box</li> </ul> </li> <li>○ Boom Box [Drag Item into Environment]               <ul style="list-style-type: none"> <li>● Causes Pet to Dance</li> </ul> </li> <li>○ Gum Tree Hat [Drag Item onto Pet]               <ul style="list-style-type: none"> <li>● Pet wears Hat</li> </ul> </li> </ul>
<b>Inspired Interaction</b>	<ul style="list-style-type: none"> <li>○ Food [Drag Item onto Pet]               <ul style="list-style-type: none"> <li>● Pet will appear to be hungry</li> </ul> </li> <li>○ Wake Up [Shake iPhone]               <ul style="list-style-type: none"> <li>● Pet will wake up</li> </ul> </li> </ul>
<b>Cleaning Up</b>	<ul style="list-style-type: none"> <li>○ Clear Clouds / Flies [Shake iPhone]               <ul style="list-style-type: none"> <li>● Clouds / Flies will disperse</li> </ul> </li> <li>○ Medical Kit [Drag Item onto Pet]               <ul style="list-style-type: none"> <li>● Heal Polluted / Sick Pet</li> </ul> </li> </ul>

## Environmental Interaction Game Play

Green Kangaroo will differ to traditional “Tamagotchi” game play through the addition of environmental game interaction game play. As well as players having the opportunity to interact with their pet the player will also be able to interact with their environment. Using the same structure the “Environmental Interaction Game Play” will allow the player to interact with their virtual pets environment in a variety of ways using the iPhone touch screen and accelerometer. The key mechanics similarly will follow the paradigms of “Freedom of Interaction”, “Inspired Interaction” along with “Cleaning Up”. The “Freedom of Interaction” will allow the player to play with their environment in a range of ways without instruction allowing an openness of interaction to be achieved. The “Inspired Interaction” will be when the environment inspires the player to interact with it in a certain way (e.g. falling asleep, wanting food and so on). Finally the “Cleaning Up” game play will allow the player to heal and renew their environment following their environmental choices reflect upon their pet.



*Green Kangaroo Environmental Game Play Mechanics*

Mechanic	Interaction Examples
<b>Freedom of Interaction</b>	<ul style="list-style-type: none"> <li>○ Day / Night Cycle [Drag Sun to Floor]               <ul style="list-style-type: none"> <li>● Causes game to change to time</li> </ul> </li> <li>○ Move Rocks / Trees               <ul style="list-style-type: none"> <li>● Rocks and Trees can be arranged</li> </ul> </li> </ul>
<b>Inspired Interaction</b>	<ul style="list-style-type: none"> <li>○ Rainfall [Drag Clouds Horizontally]               <ul style="list-style-type: none"> <li>● Stops Rain on Pet</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ Change Gravity [Move iPhone] <ul style="list-style-type: none"> <li>• Causes Environment to reflect</li> </ul> </li> </ul>
<b>Cleaning Up</b>	<ul style="list-style-type: none"> <li>○ Clear Clouds / Flies [Shake iPhone] <ul style="list-style-type: none"> <li>• Pollution Clouds / Flies will disperse</li> </ul> </li> <li>○ Fire Fighting Bucket [Drag item onto pet] <ul style="list-style-type: none"> <li>• Puts out bush fire disaster</li> </ul> </li> </ul>

## Environmental Impact Calculation Game Play

As well as containing the core “Tamagotchi” game play, a multiple choice question will be dispersed every 3 minutes to cause the environment and pet to change based on the players answers. **The questions will start with minimal impact until the questions that will cause the players pet to die if they answer an environmentally degrading answer.** The players pet will have 4 stages in total representing both the environment and pet. The stages are:

1. HAPPY / ENVIRONMENTAL PURITY
2. CONTENT / MINIMAL ENVIRONMENTAL DEGRADATION
3. SAD / EXTENSIVE ENVIRONMENTAL DEGRADATION
4. DEATH / MAXIMUM ENVIRONMENTAL DEGRADATION



Idle Content Pet in *Green Kangaroo*

The answers by players to a range of multiple choice questions will cause the pet / environment status to move between the four stages. The questions will ascertain

the player's impact and have four answers each with differing values relating to their impact on the environment. For example the question:

*What was your main method of transport today?*

- a) **Car** – 50 Impact Rating
- b) **Public Transport** – 30 Impact Rating
- c) **Bicycle** – 10 Impact Rating
- d) **Walking** – 0 Impact Rating

After a few questions are asked if the rating is greater than 200 then their virtual pet would die due to the player's high environmental impact. However as well as showing their virtual pet die, there is also a high level of tangible learning. Upon the player's pet deterioration the opportunity to learn about how to decrease their environmental impact will be provided through a randomised list of tips and ideas.

Also of key note is that the questions will be phased in to not overwhelm the player. Green Kangaroo is firstly a game, and the onslaught of environmental questions will no doubt break the player's immersion and fun. **The aim of the team is for the player to have emotional investment into their pet. The experience of the player watching their pet get sick and even die due to their lifestyle should shock a lot of people.** Even though the game is quite exaggerated in its presentation of environmental impact, it is seen as the impacts of the player's lives on the future rather than the present. Whereas driving one day will not immediately kill a kangaroo in Australia, over time if the player's impact continues and their accumulated impact will.