## Quokka Blokka Playtesting Report

## Sprint 1

#### Goals

The predominant thing we aimed to discover from our first rounds of playtesting was whether or not our game idea was actually fun and worth pursuing. Our feedback from our pitch indicated that our idea needed a lot of reworking in order to be enjoyable so we needed to know if our altered idea was any good ASAP. We weren't doing targeted tests, we just needed to know generally whether people were enjoying the game, and from there we could work out what direction to take the game into.

#### **Internal Testing**

With this sprint focusing on the core of the game, the majority of testing for this sprint was handled internally by ourselves, so we could work out how the basics of the game should function before other people started playing. This is what we looked at ourselves before allowing others to play the game:

#### Pre-placed Blocks

There needed to be some blocks already existing in the level before the player placed any of their own. The player needs somewhere to place their blocks so that they're not just stacking them on the bottom or on the end of their own path, because then the whole game would just devolve into a loop of building a staircase upward, falling to the bottom, and building a staircase back up again, which wouldn't be any fun. Existing blocks would force players around the screen and make them think more about their block placement.

We were planning to come up with some rules to procedurally place clumps of blocks in the level as the player runs along, so that the experience would be different each time. However, being inexperienced with procedural generation we instead implemented a basic randomisation script that scattered blocks around the bottom half of the screen, which would allow us to test the game until we'd researched how to best handle proper procedural generation. In our testing though, we found that this method was actually doing the job perfectly. It provided a different experience each time, and gave the player enough space to breathe. Placing clumps all over the screen would have restricted the player too much.

We still wanted some form of 'structured' element to the game though, so we came up with the idea of Obstacles which appear at the end of each screen.

#### Quokka Movement

We toyed with two models for the quokka- one using rigidbody and physics, and the other treating them like a block in the grid, moving between each cell step by step.

We found that the Physics model looked much more appealing visually, with smooth movement and falling. However, it had unpredictable falling paths due to its speed and the way gravity affected it. This meant that it was hard to gauge where it was going next, which isn't something you want in an endless runner, and it would occasionally get stuck between gaps in weird ways.

Meanwhile, the Grid model gave us more control over the quokka's movement, so it was easier for a player to understand where it would be going next. It didn't look as smooth in motion, but we could

attempt to fix that later on. The gameplay benefit outweighed that con, and the Grid model is what we decided upon.

#### Difficulty

Right from the beginning we could tell that difficulty would be an issue for us. There were so many ways the player could die, and not much they could do about it. We were having trouble even testing if obstacles were being placed properly because we couldn't make it that far very often. We knew that difficulty was one aspect we'd want a lot of feedback on, and tried tweaking the speed of the quokka and fire in order to alleviate the difficulty as much as we could for this first stage. One additional change we made was making the player a 2x2 block instead of a single block. This meant the quokka wouldn't get stuck in tiny gaps that would frequently appear while playing, and made the game more manageable.

#### **External Testing**

Internal testing consisted of having Malcolm and our classmates play our game at the first product review. We had a high score table implemented so that we could record how well players were doing compared to us in our own testing. This would help us gauge the difficulty of the game so far, while the player's responses would help us gauge the 'feel' of the game.

#### **Proof of Concept**

This was the main thing we were seeking from having others play the game. We wanted to know if we'd 'found the fun', and had something to work with. Thankfully, everyone enjoyed playing the game, and Malcolm was impressed what we did with the feedback our initial idea had received. This was incredibly reassuring as it meant we hadn't wasted our time and now had a strong foundation from which to build upon. People especially liked the row elimination mechanic, as it forced the player to be paying attention at all times, and stopped players from easily maintaining a straight path right to the end.

#### **Block Movement**

A lot of people remarked on the controls, saying that they were unresponsive. They had to mash the movement buttons really quickly in order to get the blocks to move at speed, and even then it wasn't fast enough to, say, reach a quokka at the bottom of the screen. People suggested that we allowed for quicker movement if the button was held done, as well as just generally making the movement more responsive when a key was pressed once. Some people also requested a button to instantly drop a block down as far as it could go, but we determined that this would cause more issues than anything, as you could easily block your own path or squash the quokka by mistake.

#### Interface

While our current interface was just a placeholder to allow the game to function rather than one we'd put a lot of thought and polish into, there was negative feedback about it. Firstly, the buttons used to progress through the menus changed a lot for no reason – Enter submitted a high score, but you then had to press Space Bar to restart instead of hitting the same button, which was confusing. Also, the score entry for the leaderboards was clunky and confusing because you had to click in and out of boxes in order to allow the game to submit it properly. These were all expected as we hadn't focused on the interface for this sprint, but we noted the feedback anyway.

#### Difficulty

While watching others play the game, it was obvious that the game in its current state was really hard. Some of these aspects were good and well-received, such as the block elimination, but generally it was clear that we had a lot of tweaking to do. Only two attempts from the class made it

into the high score table, and weren't near the top, which meant people were struggling even more than we were. The control issues that were previously mentioned factored into the difficulty a lot, but there were also some other significant issues.

Firstly, the blocks cleared when a row of 7 is formed disappear immediately, which players said didn't give them any warning or indication of what was actually happening. Suggestions were made like rows of blocks changing colour the closer they came to being eliminated, or having the blocks flash before clearing.

People kept pointing out that the quokka could ride on falling blocks and use them as a platform before they'd been placed as if it were some form of exploit. Except the people who did this always ended up down the bottom and couldn't save their quokka with new blocks, so it wasn't making the game easier at all and we decided to just leave the function in the game.

Another thing tying into the difficulty was the cause of death not being clear. At the moment the game over screen just said that the player had died, with no indication of the cause. Being caught by the border made sense, but things like the player not being able to climb higher or being squashed by the player block were less immediately noticeable, and players weren't sure of how to correct their playstyle for next time. The cause of death needed to be conveyed to the player, and it was suggested that we take a look at whether all the failure states were necessary.

One final difficulty issue was one we noticed, but the players didn't. The players were still wrapping their heads around how the game played, and weren't fully aware of what was happening, but we noticed them struggling a lot with the obstacles. Some of the obstacles were too hard to complete when the player was at certain heights, e.g. one obstacle was a tall wall that needed to be climbed, except if the player was too close to the bottom of the screen it was practically impossible to climb it without being caught by the border. We also noticed some obstacles placing players into situations that were too hard to get out of which he hadn't noticed in our internal testing, so we needed to take a closer look at our obstacles and make sure they could be completed from a variety of positions.

#### Conclusions

- We'd 'found the fun' in our concept, and had a strong foundation to work from
- Controls were preventing players from doing as well as they could, and needed to be made
  more responsive. An option to make blocks drop instantly was suggested, but we decided
  this would make players get themselves into undesirable situations rather than assist them,
  so this was decided against.
- The interface was unintuitive and needed to be made easier to use. The high score input needed to be edited so the process wasn't so convoluted, and progression through menus needed to be handled by similar buttons, instead of the player being taken to screens they didn't want to go to.
- The game was difficult for a variety of reasons, and needed some balancing. As well as fixing the individual causes identified, we agreed that we could use power-up blocks to assist players, which we would work on in the next sprint
- The quokka being able to 'surf' on falling blocks was rarely beneficial, so it didn't need to be removed or tweaked
- The players needed to be informed of the causes of their death so they didn't feel cheated, and could correct their playstyle for next time. We would add some text to the game over screen to do this

- It was suggested that we consider removing some of the failure states to make the game easier, but we decided against this. The border catching up to you was absolutely necessary as it put pressure on the player, and without it the game would be way too easy. Hitting the bottom was also necessary because otherwise the player could just run across the bottom and the game would lose most of its challenge. Squishing the quokka was deemed necessary as well, because in just about every situation a block would land on the quokka, the quokka wouldn't be able to move anyway. Finally, the quokka hitting their head was discussed a lot, but in the end we decided to keep it. We pondered the idea of the quokka moving backwards along a block to the edge, and then climbing upwards, except this would mean the quokka would be moving backwards towards the fire, then climbing upwards, all the while slowing down. This would bring the player so close to losing in most cases that it would just be delaying the inevitable, and the quokka hitting their head would allow them to quickly start again.
- Obstacles needed extensive testing to make sure they weren't putting the players in unwinnable conditions. We also decided to separate them into 'High' and 'Low' groups that would appear depending on how high up the screen the player was. This would mean that we could tailor obstacles around the player position.
- The player needed to be aware that a row of 7 was going to be eliminated. We wanted the elimination to still have an element of the surprise that snuck up on player, because it was exciting and tense when you realised that you'd set this situation up for yourself. To this end, we decided that a row would change colours one 'tick' before eliminating, so the player knew what was about to happen, and could begin to prepare.

## Sprint 2

#### Goals

- Test obstacles ourselves to make sure they don't put the players in impossible situations
- Work out if the power-ups assist the player while not making the game too easy
- Find out what needs to be explained in the tutorial
- See whether our changes to the controls were enough

#### Internal Testing

Now that we had our foundation working, internal testing wasn't as important as external testing. We made sure the power-ups felt like they added something of value, and tweaked the controls to feel more responsive. A major focus of the testing though, was the obstacles.

#### Obstacles

We noticed a lot of issues with the obstacles due to not properly understanding how our designs would work with the game's mechanics. When testing them out on paper we didn't take into consideration the quokka's slow falling speed, and the block spawner's movement, so we had issues like the quokka not falling down gaps we expected them to, and falling blocks getting stuck on the high points of obstacles where they would block the player's path without them being able to react.

We struggled to implement a system that would force a particular obstacle to spawn to assist with testing, so instead we just removed all obstacles from the game except one from each of the High and Low categories so that we could test them individually.

We came up with a lot of useful information on what needed to change. There would be too much to list for each individual obstacle, but the common problems we found were as follows:

- Gaps between large structures in obstacles were made redundant, because the quokka would just glide over most of the gap, and then climb up the face of the structure ahead of it. As such, these weren't focused on as the main 'challenge' of an obstacle
- Obstacles that force the quokka through tunnels were too difficult, as the blocks would just stack up on top of the tunnel and the player couldn't place them in front for when they fell down. These obstacles were removed, as no amount of tweaking could make them work
- Obstacles had blocks too close to the top of the screen. This meant that player's paths were getting clogged with blocks they couldn't move. These obstacles could be fixed by lowering sections of them, and making space where necessary
- Obstacles didn't leave enough space in the middle for players to navigate blocks through, so
  they couldn't assist the quokka with new blocks. These obstacles were fixed by removing
  small clusters of blocks in the middle of them, and clearing enough space for falling blocks.
- Some obstacles had rows of seven or more blocks in them, which caused their structure to
  completely fall apart. While this was unintended, we loved the idea of a 'crumbling castle'
  obstacle, and tried to make an obstacle where the player had to get through without being
  crushed by falling blocks. When testing these designs though, it was apparent early on that
  they just wouldn't work and the player couldn't escape them properly

#### **External Testing**

There were two phases of external playtesting for this sprint. First was getting our family members to play the game, and second was having Malcolm and our classmates play our game at the product review.

#### **Tutorials**

We hadn't implemented proper tutorials in our game yet, and so we wanted to gauge what areas of the game people had trouble understanding in order to focus on them in the tutorial. Players were fine with understanding the basic controls and gameplay, but when more complicated features started arising they got unsure of what to do.

This was especially true of the power-up blocks. People didn't know why some blocks looked different to others, and couldn't tell exactly what they'd do when looking at them for the first time. Explaining the power-ups was deemed as something important to be in the tutorial.

The causes of death were another area where people got confused. They understood them once they encountered them thanks to our new death screen, but some of the causes, in particular the quokka hitting its head, weren't immediately obvious to the players as something they'd need to be wary of.

#### **Block Movement**

Our first round of external testing for this sprint indicated that our tweaks to the block movement weren't quite enough, especially in regards to getting blocks down to the bottom of the screen in time. When the quokka was near the bottom, the player usually couldn't get blocks down in enough time to save them. We tweaked the controls further for the product review.

At the review, people immediately commented on how much better the controls were to last time. We could see that they weren't struggling to move the blocks as much as they were last time. One thing people remarked was that there was a slight delay when you hold down the buttons to keep the blocks moving, and they didn't keep moving right away.

#### Power-Ups

In both rounds of testing, people didn't immediately understand why some blocks were coloured differently to others as the game didn't explain this yet. Once we explained the concept of power-ups to them though, people liked the idea. People liked the sprint power-up the most as its effects were most immediately visible and tangible. Whereas people didn't care as much about the other two as they didn't immediately offer value e.g. being higher from an elevator block isn't something that people saw as valuable until they understood the mechanics more, but having a flat platform for a few seconds is something people can appreciate all the time.

Power-ups were making the game much easier, especially the sprint power-up, which we could tell because most people were getting a high score on the high score table this time. This proved that the choices of power-ups we had made were good ones. As people weren't smashing through the game with ridiculous scores, we knew that the game still retained its difficulty, so the power-ups weren't making the game too easy.

One comment that stood out was that we needed to signpost the effects of the power-ups. People didn't know what was happening when they triggered a power-up that wasn't the sprint. For example, people knew that something was happening when the platform appeared for sprint, but didn't know that slippery blocks were making them glide. We needed something to point out that the effects of a power-up were being triggered.

#### General

While we hadn't implemented a background yet, when we told people we were going to have a bushland background people said that staring at the same background the whole time could get dull. It was suggested that we have different backgrounds, or something that indicates that the player is progressing and not just doing the same thing forever and ever.

One thing that we noticed while people were playing that they didn't notice (or at least didn't comment on), was that at times the block spawner was getting 'clogged' when players got near the top of the screen. When players' paths got close to the top, it would immediately place a new block on their path because it has nowhere to move to, and as soon as it moved further to the right it would do the same thing. This meant that people were getting ripped off with deaths that weren't within their direct control.

Thankfully though, people weren't struggling with the obstacles, meaning that our tweaks to those had been effective, and the obstacles were now a nice way to add some variety to the game.

The highlighting of blocks that were about to be eliminated was another well-received feature, as people now better understood the concept of row elimination, and had enough time to plan their next move.

#### Conclusions

- Obstacles were now adding to the game and not ruining it.
- Controls were generally much improved, but there were some slight delays in movement when the player held down the movement keys that we would need to remove.
- Power-ups were easing the difficulty, but players didn't understand the concept of them
  right away. We needed to explain them in our tutorials as well as include some form of
  signposting that indicated they were taking effect. We decided upon some animations on a
  layer above the background relating to the element of the block, as well as some
  accompanying sound effects.

- Players understood why they died now, but weren't aware of all the ways they could die from the beginning. This is something else that would need to be explained in our tutorials.
- We would have our tutorials briefly explain the controls, but spend extra time focusing on the row elimination mechanic, power-ups, and the ways you could die. These were the areas that people needed explained most.
- We needed some form of player progress since our game doesn't have distinct levels. After
  discussion we decided upon having backgrounds transition between different environments
  the longer the player stayed alive, and we would have the player's score on-screen at all
  times. These two things would give the player a sense of accomplishment and disguise the
  fact they were just playing the same thing over and over again
- People were struggling with understanding all aspects of the game as it was, and the
  reception to our planned features for the next sprint were met with damp reactions, so we
  decided that we would be focusing on polishing our game rather than adding even more to
  it.

### Sprint 3

#### Goals

- Find out if our tutorials are useful enough
- Gather feedback on our aesthetics (animations, GUI, and sound)
- Try to identify what was causing our game to be difficult
- Determine whether our controls were adequately tweaked

#### **Internal Testing**

As the majority of additions for this sprint were aesthetic, not functional, there wasn't much we could do in terms of internal testing. We couldn't accurately judge things like the tutorial because we know how the game plays and how the menus interact with each other, so we needed unbiased sets of eyes on them.

We did critique our GUI designs as much as possible to ensure that they were providing enough information while not cluttering the screen. One aspect that was of debate was the leaderboards screen. We were split as to whether the top score in the table should be separate from the rest of the table, or whether to just highlight it or place a graphic next to it. Some of us felt that having the top score stand out a lot more made them look more important, and would inspire players to want to beat them. The rest of us felt that having it separate looked messy and brought down the design of the screen. We would gather opinions from players to see what they thought.

#### **External Testing**

External testing was again handled by having our friends and family play the game at our house, and our classmates in class. We were hoping to send the game out to people over social media, except some issues with exporting it prevented us from doing so. External testing was more important now than ever, as we were testing things that we couldn't accurately judge by ourselves, and we needed as many opinions as possible to determine the last few tweaks and alterations needed in order to make our game the best it could possibly be.

#### Tutorials

The people who had played our game before said that the tutorial screens were helpful and would have answered the questions they had when first playing our game.

We had people who hadn't played the game read through the tutorials before playing. They were doing much better on their first tries than other people had without the tutorials, and looked a lot less confused when they died. However, some of them still had to ask what each power-up did because they forgot.

#### Aesthetics

People really liked the style we were going for, providing plenty of positive feedback about our visuals. They thought that the quokka's movement could still be smoother and less 'stuttery', but really liked its appearance. He had a lot of charm, even when getting splatted.

The music and sound effects were also praised. People said they were very fitting, and added a lot to the 'feel' of the game. The new signposting of the power-ups was something people really loved, with the graphical overlays and sound effects. It made the power-ups have a presence and you knew something cool was happening.

Our menu designs were also well-received. They were much easier to navigate now, and helped maintain the style and atmosphere we were going for with the game. We asked people how they felt about the leaderboards, and the unanimous opinion was that having the top score be separate and emphasised made them look like a bigger threat that you had to tackle. However, people didn't like the pure gold design of the leader's box, so we decided to tone it down with some more subtle colours.

#### Difficulty

People were handling our game a lot better now, but still kept remarking that it was hard. Whenever we asked what made it hard, people could never come up with an answer. They'd just comment on the fact it was easy to die.

#### Conclusions

- Tutorials were useful
- Our game's feel and style was well done, but the jerkiness of the quokka's movement and animation was always commented on. We agreed to try to smooth out the animations a bit, but with only one hard-working artist it would be difficult to get them up to a standard quite as high as everyone was requesting
- Leaderboards needed a bit of tweaking to make the leader's box look less tacky. This was a simple fix of just changing the colours slightly
- The game was being perceived as difficult, but no-one could ever explain why they thought so. More testing would be required in order to find the cause and fix it.

## **Final Sprint**

#### Goals

This was our final chance to work on our game before showing it off to the judges, so our goals were to ensure each aspect of the game was as good as it could be. We wanted our feedback to indicate the following:

- GUI is aesthetically pleasing and functional
- Block movement is smooth and precise
- All sprites and animations look right, and have the desired charm and character
- Random block placement brings out the best of the game between obstacles
- All obstacles add to the game rather than detracting from it

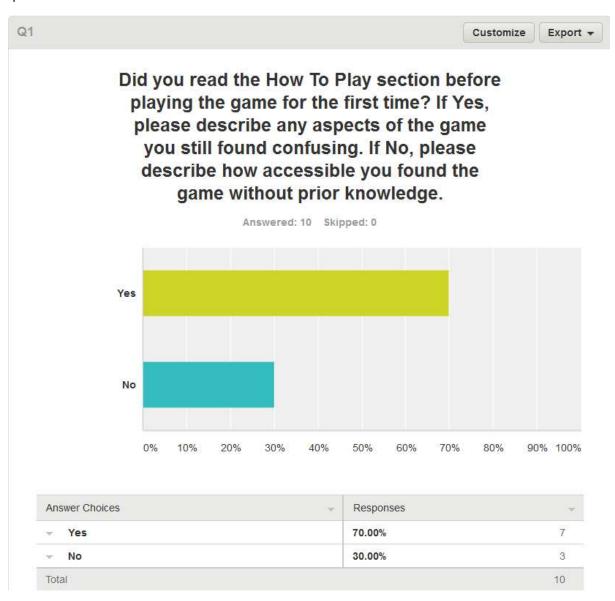
 Game balance has the right amount of difficulty and makes the game enjoyable rather than frustrating

#### **Internal Testing**

Internal Testing wasn't important for this final sprint. We just needed to gather as much feedback as possible and then make the necessary tweaks.

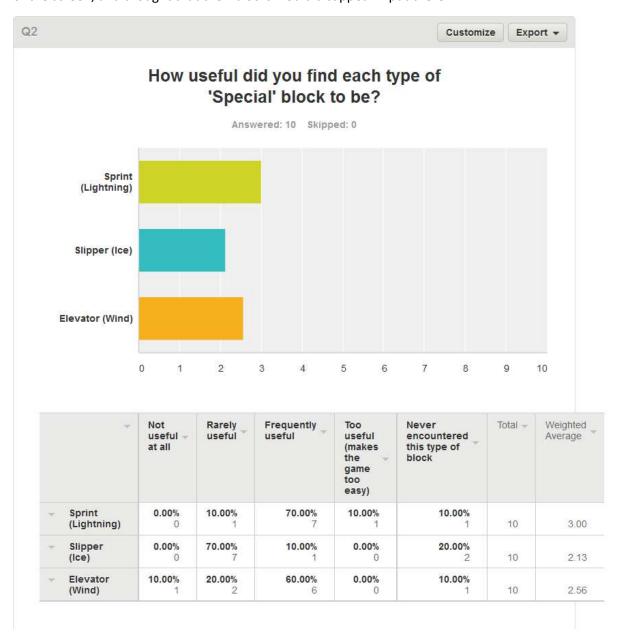
#### **External Testing**

We would not have an opportunity to have the class play our games before the final product showcase, so in order to get some varied opinions and new perspectives on our game we distributed the most recent build of the game to our friends over Facebook along with a survey asking a few questions

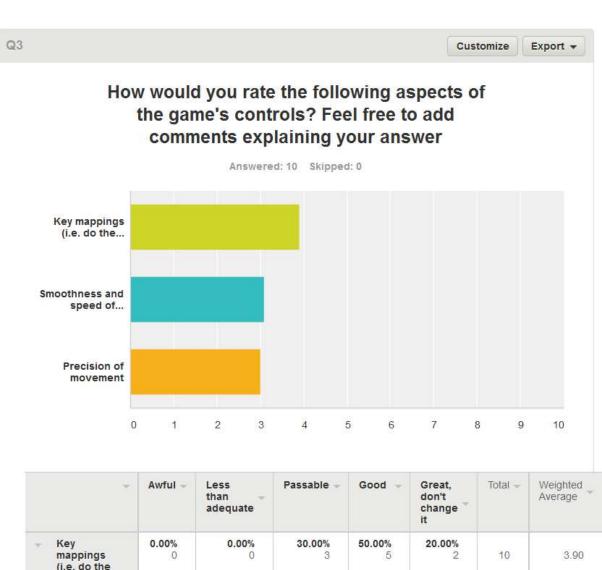


We were surprised that people were rushing into a game that they'd never heard of before without reading the tutorials, but they did nonetheless. Thankfully most people read it. The people who didn't read the tutorials came back with weird feedback like how they thought they were controlling the quokka until they read the tutorials, but we couldn't think of ways to force instructions onto the player without being annoying. People who did read the tutorials felt, for the most part, that they

understood the game fine. Some people didn't know that they could place blocks onto the bottom of the screen, and thought that their blocks would disappear if put there.



We expected Sprint to be the most useful of all the power-ups, and these results confirmed this. People didn't think it was game-breakingly useful though, which was a relief. What took us by surprise, though, was people not seeing much use in the other power-ups. Most people thought the Slippery blocks weren't much use at all, which we put down to people not putting enough time into the game to understand how they could be used. We didn't understand how someone could think Elevators weren't useful at all, and put this down to the same thing.

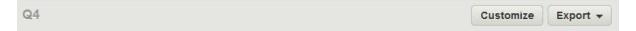


	Y	Awful -	Less than adequate	Passable +	Good +	Great, don't change it	Total -	Weighted Average
30	Key mappings (i.e. do the controls make sense and feel natural?) Comments (5)	0.00%	0.00% O	<b>30.00%</b> 3	<b>50.00%</b> 5	<b>20.00%</b> 2	10	3.90
Y	Smoothness and speed of movement Comments (6)	0.00%	<b>20.00%</b> 2	<b>60.00%</b> 6	10.00%	<b>10.00%</b> 1	10	3.10
***	Precision of movement  Comments (6)	0.00%	<b>30.00%</b> 3	<b>50.00%</b> 5	10.00%	<b>10.00%</b> 1	10	3.00

These results were very reassuring as it showed that most people thought our controls were fine. The vast majority of people felt the controls were passable now, which is what we were hoping for. People seemed confused about what the smoothness/speed section was referring to, though, as they were commenting on the quokka's appearance rather than the block movement. If they

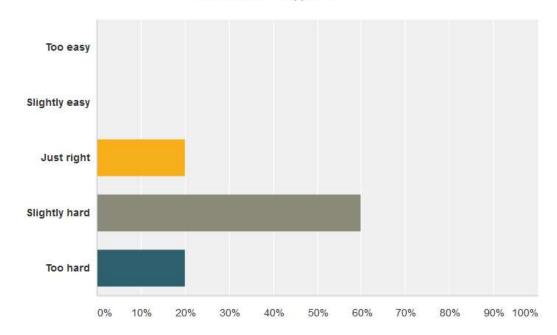
answered this correctly the rating would have been higher. Some people said that it was hard to get blocks down the bottom of the screen to save the quokka after a sprint power-up was used.

Some of the people who commented on the precision of movement mentioned that the block rotation was too fiddly, and was causing the blocks to rotate too much compared to how much the player pushed the button. They said they didn't feel as If they were in control of the rotation.



# How would you rate the game's difficulty? Please explain your answer

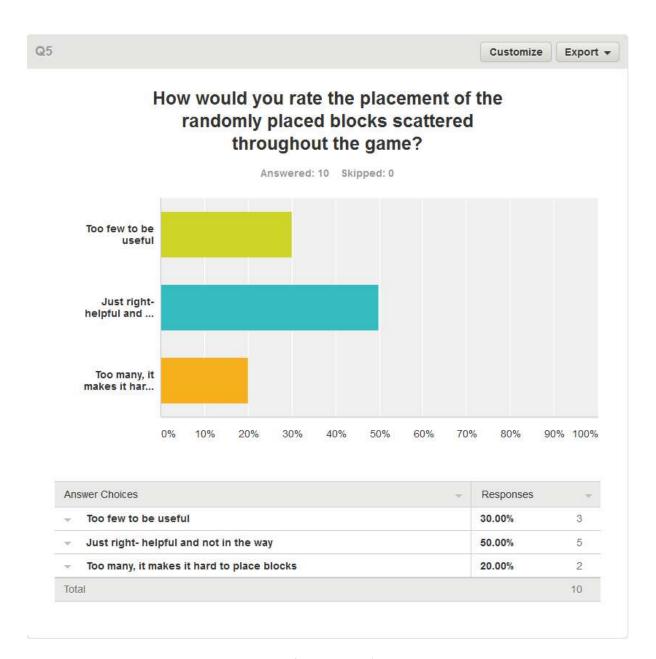




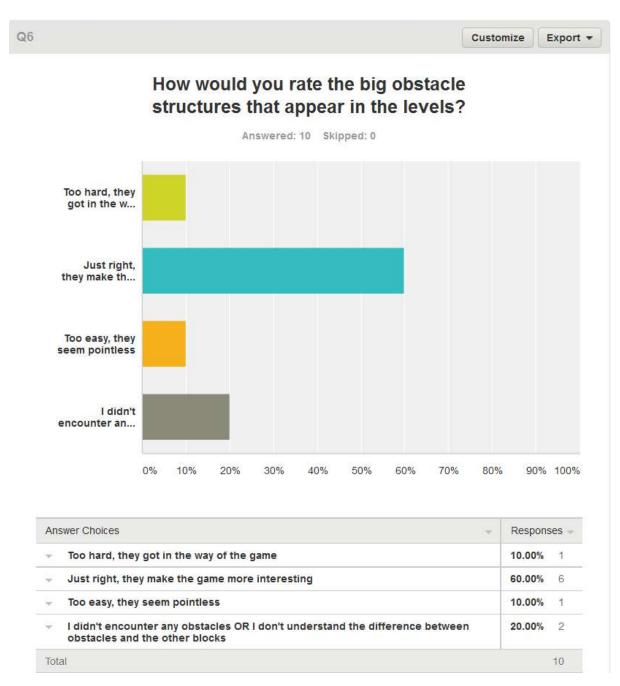
Answer Choices	Responses	
Too easy	0.00%	0
Slightly easy	0.00%	0
- Just right	20.00%	2
Slightly hard	60.00%	6
Too hard	20.00%	2
Fotal	10	

As we expected, the majority of people said that the game was hard. They didn't say the game was *too* hard though, which was a key differentiator. The comments really weren't useful at all though, because people kept saying different things. Some people said it was too hard when the quokka picked up speed, while an equal number said the slow quokka made it too easy to die in other ways.

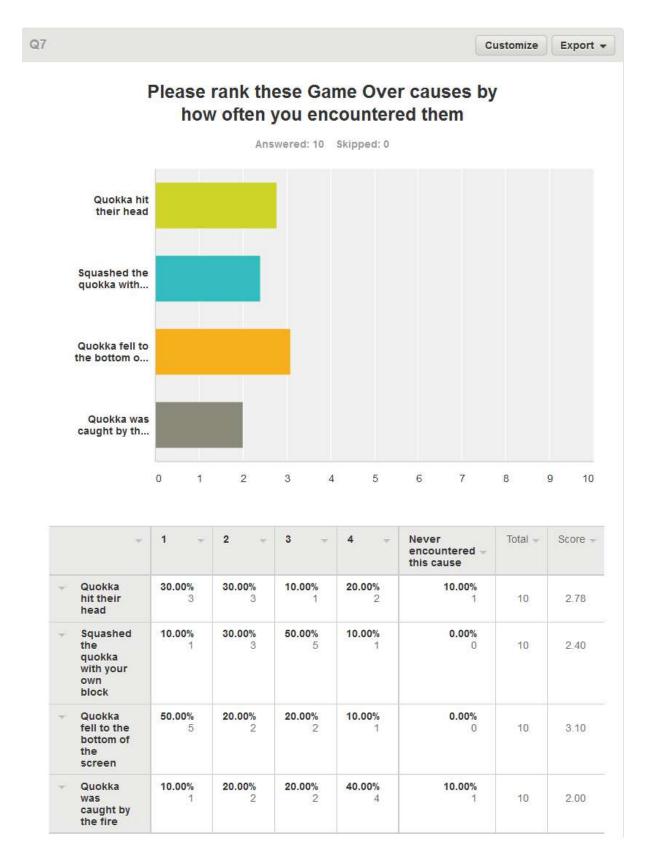
One common thread between each response was people feeling as if they had no chance to correct their mistakes- once you made one wrong move the game was over.



This indicated that the block placement was fine and didn't need altering.



Most people felt the obstacles were fine, or at least not game-ruining, which was interesting as we felt there was still a lot we could do before we were fully satisfied with the obstacles.

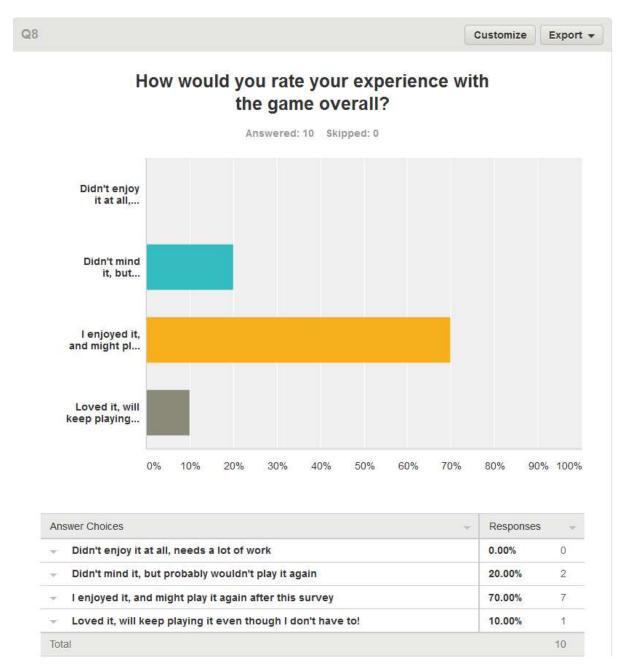


These results were really interesting, because we weren't completely sure what to expect from them. The quokka falling to the bottom of the screen wasn't one that we encountered very often, so it was interesting to see it be the top-ranked death here. We were expecting the quokka hitting their head to be the top-ranked one by a longshot. When we looked at individual responses, a lot of the people who ranked the falling death the highest were ones who said they didn't realised they could

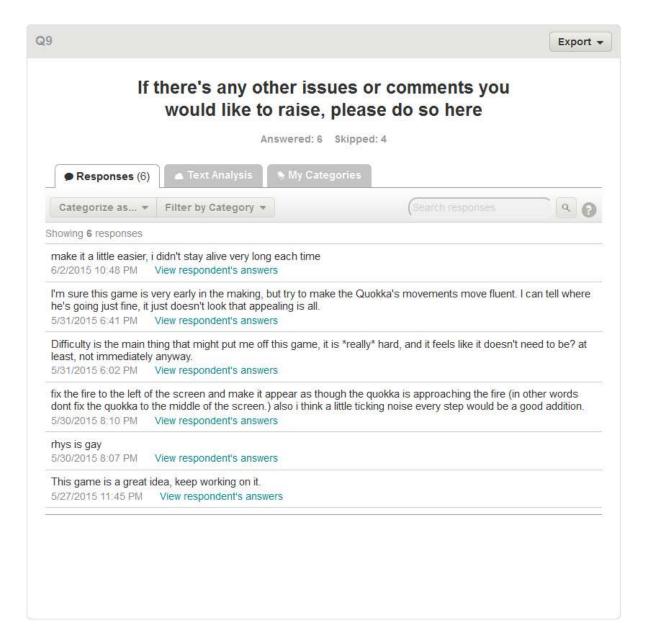
place blocks at the bottom. This made the results make sense, as the quokka would fall a lot if people were only placing their blocks where other blocks had spawned- it would leave a lot of gaps to fall through.

People didn't seem to be squishing the quokka too often, which is good because it indicates that people were placing their blocks ahead instead of trying to place them directly in front of the quokka, and playing the game properly.

Players not being caught by the fire often was intriguing and worrying, because it's meant to be this big, threatening entity pushing you along your path, and yet it didn't seem to be much of a threat at all.



We were pleased that most people enjoyed the game, though we would have liked more people loving it and continuing to play.



These extra comments weren't really any help at all, they were either too vague or providing solutions to non-existent problems.

#### Conclusions

- The game needed to explain that blocks can be placed on the bottom of the screen
- Power-ups were mostly seen to be as useful additions that didn't make the game a cakewalk. However, the Slippery blocks in particular were seen as not being very useful, but we believed this would change when players had more time with the game
- Rotation needed to be tweaked so that players felt properly in control of rotation.
   Otherwise, the controls were fine
- Players remarked that it was hard to get blocks down to the bottom after a sprint, so we edited the sprint power-up so it lifts people up when they're at the bottom of the screen
- Everyone had different opinions on what made the game hard, but most felt that the game was too punishing of a single mistake. We discussed different methods of alleviating this, such as the ability to delete a single block with the mouse every so often, or a rechargeable ability to rewind time. These all sounded too complicated though, and instead added the

- functionality for multiple lives, allowing the quokka to resurrect themselves and keep running. This would let players play for longer and not feel as bummed about their deaths
- The fire wasn't threatening enough, so we made it eat up all of your lives and not give you a chance to resurrect. We also slowed down the speed at which the quokka gains momentum, which in our minds makes the game harder, but people kept saying that the game was too fast when it sped up.
- Obstacles and random blocks were fine and didn't need tweaking
- The tutorials were going to end up really long if we explained each and every last mechanic in the game, so we decided to introduce a 'Hint' system to stop the tutorials from being too wordy and stopping players from retaining all the information. At the 'Get Ready' screen, a random hint explaining an aspect of the game would appear, which allowed us to explain minor things like being able to place blocks down the bottom, and would also gradually explain the game to people who didn't read the tutorial