

Pokémon reality



TECHNICAL DESCRIPTION

Pokémon reality gear and game

Falk-Jonatan Strube

and Anxhela Merko

November 9, 2016



Contents

1	Introduction	3
1.1	Glossary	4
2	The Gear	5
2.1	Customer Awareness	6
2.2	The Headset In Detail	7
2.2.1	Lenses	7
2.2.2	Display	8
2.2.3	Tracking technology (eye and head motion tracking)	8
2.2.4	Audio	9
2.2.5	Neuro-Stimulators	10
2.2.6	Microphone	10
3	The Game	11
3.1	Consumer Awareness	11
3.2	Scope Of The Game	11
3.3	Gameplay	13
3.3.1	Exploration	13
3.3.2	Pokémon-battles	14
3.3.3	Catching Pokémon	16
3.4	Conclusion	16
4	Final Notes	17

1 Introduction

Pokémon reality game and gear is an innovative new Soft- and Hardware-Bundle which lets you dive into the Pokémon world. **Introducing the Pokémon reality gear for an all new leap into immersion in gaming, enabling you to be as close to your favorite Pokémon as never before.**


The **Pokémon reality gear** isn't just a visual virtual reality device. This new product has been launched with an innovative new technique: the neuro-stimulator. Signals can be transmitted to the brain and cause specific sensory inputs. This provides a very accurate visual **recreation** of the game and comes with physical sensation options. In combination with the head motion and eye tracking sensors it creates the perfect virtual reality to experience your **Pokémon** adventure.

The game offers the **choice on** how exactly you want to experience the **Pokémon** world. The world and its inhabitants have grown over the years, with each generation adding new regions to explore and hundreds new **Pokémon** to catch.

This time, for the first time ever, you may **choose on** which regions you want to explore – or not – and which **Pokémon** you want to encounter – or not. In the section *The Game* you can get an in detail description on what to expect.

So what are you waiting for? Start getting to know your new favorite **Pokémon** game with the best gear available!

1.1 Glossary

New to  or virtual reality? Here are some words you might not know:

Stereoscopic image	2 warped images on each half of the screen
Neuron	cell that transmits information in the brain through electrical and chemical signals
Gyroscope	a device that senses angular velocity
Accelerometer	a device used to measure the acceleration of a moving or vibrating body
Pokémon	pocket monster (animal-like monsters which live in the wild and are caught and trained by Pokémon trainers)
NPC	non-player-characters (computer controlled characters)
HP	health points

2 The Gear

The Pokémon reality gear is a virtual reality headset that uses different technologies in order to allow you to dive into the Pokémon world (Figure 2.1). The headset creates a virtual environment in front of the user's eyes, while the attached sensors and neuro-stimulator launch you into the your Pokémon reality.


The headset is manufactured in collaboration with *Oculus VR, LCC*.




Figure 2.1: The Pokémon reality gear

The Pokémon reality gear is going to sit perfectly on your head and is very light with a weight of only 318 grams. In addition it is designed so that you do not feeling any pressure anywhere as the weight is evenly distributed towards your head. As the tapes, which keep the device in place, are made of a very elastic and adjustable material, the headset is suitable for you regardless of your age and size. Furthermore, the built-in earphones are intended to fit your ears without causing any pressure, contributing to optimal comfort. Since the the gear is easily connected to any device via plug-and-play, you should be ready to experience your Pokémon world out of the box.

2.1 Customer Awareness

Using the  *reality gear* for more than three hours without interruption can cause a **nausea feeling** in certain sensitive individuals. It is advised to use the device for a maximum of two hours at a time without **brakes**.

The visual feedback combined with the neuro-stimulators could make the user lose himself in the virtual world. Children under the age of 12 and psychologically unstable users are advised to disable the neuro-stimulators, as it can easily affect their senses and the perception of the real world.

If you notice any discomfort during the use of the  *reality gear* your first step should be to disable the neuro-stimulators.

2.2 The Headset In Detail

The Pokémon reality gear has six main parts:

1. Lenses
2. Display
3. Eye and head motion tracking technology
4. Audio
5. Neuro-stimulators
6. Microphone [not visible]



Figure 2.2: The Pokémon reality gear in detail

2.2.1 Lenses

The lenses (Figure 2.3) are made up of concentric prisms of uniform thickness. Thus, a crystal clear, stable vision is guaranteed. They were made to establish a focal point, so that you can perceive the depth of the image, which essentially means that you can gaze beyond the virtual environment of the Pokémon reality game and live the world while playing.



Figure 2.3: The lenses of the Pokémon reality gear

2.2.2 Display

The Pokémon reality gear display (Figure 2.4) features 1080×1200 pixels for each eye with 90 Hz dual split screens. The screen is positioned a few centimeters in front of your eyes and projects a stereoscopic image. When these images are viewed through the lenses, you will be able feel like you stand inside the Pokémon reality.



Figure 2.4: The display of the Pokémon reality gear

2.2.3 Tracking technology (eye and head motion tracking)

The Pokémon reality gear is built with multiple sensor inputs. The device is able to track your head movement due to a gyroscope, an accelerometer and a compass. This enables the adaption of the images of the virtual Pokémon world to the position of the head. The headset collects eye data by using a internal eye tracker. The eye tracker includes two common

components: a light source and a camera. The camera tracks the reflection of the light source along with visible ocular features such as the pupil. This data is used to extrapolate the orientation of the eye and ultimately the focus points on the display.



Figure 2.5: Usage of the Pokémon reality gear tracking technology

2.2.4 Audio

The Pokémon reality gear headphones (Figure 2.6) are equipped with *Head Transfer Function Technology* which, combined with the head tracking sensors, offer a 3D audio 'spatialisation'. This method interpolates your head movement and alters the sounds of the game world accordingly to make them sound like they come from the real world.



Figure 2.6: The Pokémon reality gear headphones

2.2.5 Neuro-Stimulators

There are two stimulators, located on each side of the Pokémon reality gear, touching the temples when the headset has been put on. These stimulators work based on the *neuron-manipulating wave interference* technique: Both devices send precisely timed pulses of high frequency photons at designated regions in your brain. These pulses manipulate your neurons and cause you to **get** a variety of sensations such as touch and smell.

This method is widely tested and completely **safe** for usage. It is a key feature for making the final step into your Pokémon world.



Figure 2.7: The neuro-stimulators are almost invisible to the naked eye

2.2.6 Microphone

The microphone is enclosed within the Pokémon reality gear. With this microphone you are able to talk to NPCs and give commands to your Pokémon. Additionally it offers the ambient noise volume adjustment feature, enabling you to emerge into the Pokémon world even in noisier environments.



Figure 2.8: The integrated microphone

3 The Game

3.1 Consumer Awareness

The **Pokémon** reality game is generally suitable for all ages. It contains minimal mild cartoon violence and some mild language.

To reiterate the warnings concerning **Pokémon** reality headset: It is recommended to pause playing the game every couple of hours for at least five minutes. This ensures minimal disorientation after long game sessions.



3.2 Scope Of The Game

The main focus of the **Pokémon** reality game is the exploration of the game world and the encounters with all kinds of **Pokémon**. In contrast to previous installments of **Pokémon** games, the **Pokémon** reality game lets you chose what regions you want to explore and what **Pokémon** you want to encounter.

The **Pokémon** world is composed of all your favorite regions of the previous games. The following regions are open for you to explore (see Figure 3.1):

- Kanto
- Johto
- Hoenn
- Sinnoh
- Unova
- Kalos
- Alma
- Orre
- Oblivia
- Fiore
- Orange Islands
- Sevii Islands



Figure 3.1: The **Pokémon** reality game map with all available 'regions'

All these regions carry unique bioms and moods. There are different kinds of towns and landscapes to explore: From the windy *Orange Islands* with their gusting sea to the steep mountains in the west of *Kanto*.

One of the most important feature of the **Pokémon** reality game is the fact, that you may pick **what** **Pokémon** you want to encounter.

You want a more retrospective experience? No problem: just deactivate all **Pokémon** except the first generation and you will only encounter *Kanto-Pokémon*.

You want the full experience? Just keep the settings unchanged and get to know the whole range of **Pokémon**.

You may choose among the following sets of **Pokémon**, together over 800 **Pokémon**:

- 1. Generation: 151 *Kanto-Pokémon*
- 2. Generation: 100 *Johto-Pokémon*
- 3. Generation: 135 *Hoenn-Pokémon*
- 4. Generation: 107 *Sinnoh-Pokémon*
- 5. Generation: 156 *Einall-Pokémon*
- 6. Generation: 72 *Kalos-Pokémon*
- 7. Generation: 79 *Alola-Pokémon*

3.3 Gameplay

The gameplay consists mainly of three parts:

- exploring the world
- fighting and catching new Pokémon
- battling Pokémon-trainers

3.3.1 Exploration

As you will be playing the game with your Pokémon reality gear, the exploring itself is pretty much how you explore the real world, too: Walk and wonder (Figure 3.2).



Figure 3.2: Exploring the Pokémon world

By keeping an eye open for details, you may discover hidden paths which lead to secret areas. There you may find rare Pokémon and unique items (Figure 3.3).

You can manage the following in the game menu:

- caught Pokémon
- found secrets
- your game progress

This menu is used intuitively with your Pokémon reality gear (Figure 3.4).



Figure 3.3: Discovering secrets in the Pokémon world

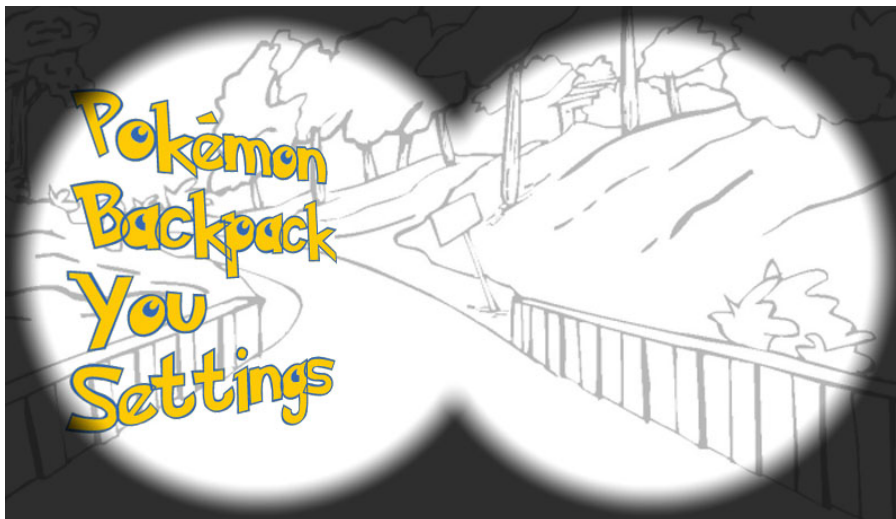


Figure 3.4: The Pokémon reality game menu

3.3.2 Pokémon -battles

During your exploration of the Pokémon world, you will encounter random Pokémon in the wild. In populated areas you may find other Pokémon-trainers (NPC). Both lead to Pokémon battles between you and your opponent.

A battle has the following sequence of events:

1. You choose a Pokémon to battle the opponent.
2. The battle proceeds turn-based. In one turn each you may take one of the following actions:

- choose an offensive or defensive action for your Pokémon to execute
 - use a special item from the inventory to buff the fighting Pokémon
 - exchange the fighting Pokémon for a different Pokémon from your team
 - retreat from the battle
3. These turns are repeated until the fight is over. If you lose, you will be teleported back to the nearest town. By winning, your Pokémon gain experience and you may get some item-rewards.

In Figure 3.5 you can see the layout of a battle:

- Your Pokémon is at the bottom left with the corresponding name and its HP on the right.
- Your opponent is at the top: the name and HP at the top left and the Pokémon on the right.



Figure 3.5: A Pokémon battle

3.3.3 Catching Pokémon

During battles with wild Pokémon you have the option to add them to your team by catching them. This takes place during one of your turns during the battle: Instead of attacking the opponent, you select a Pokéball from your inventory (Figure 3.6). With some luck, this results in the Pokémon being caught by you. To increase your chances, it is recommended to weaken the Pokémon you are trying to catch before using a Pokéball by attacking it and thus reducing its HP.

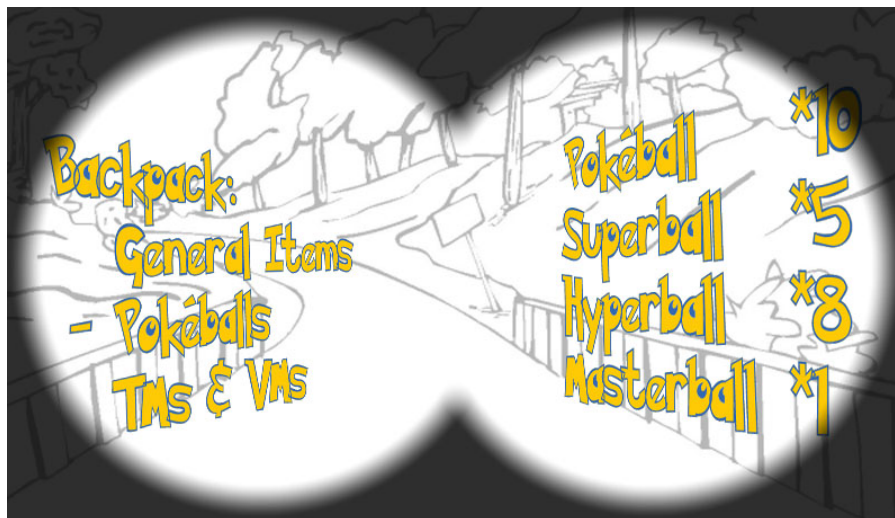




Figure 3.6: Catching a Pokémon with Pokéballs using the game menu


3.4 Conclusion

Your final goal in the game is become the ultimate Pokémon-master by catching as many Pokémon as you can and finding all the secrets hidden in the world.

By exploring the Pokémon world, catching Pokémon and battling trainers, you will get closer to this dream...

4 Final Notes

Thank you for reading this technical description of the  *reality game and gear*. We hope you enjoy our new revolutionary way of experiencing the  world.

If you have any feedback and suggestions regarding the  *reality game and gear* you may contact us over email or send us a letter:

Merko& Strube Inc.

✉ Charmanderstreet 5
D-04359 Squirtle Town

✉ MandS.inc@pokereality.com