# Request for Nintendo Switch Development Kit

Janneau Thijssen, Justin Reniers and Frank Gerlings

## Introduction

In this document we will present three designs for Nintendo Switch accessories that we would like to create using a Nintendo Switch Development Kit.

We are students at the Radboud University of Nijmegen, located in the Netherlands. Currently we are following a course named "New Devices Lab" in which we are urged to build an embedded software application. We immediately thought of the recently launched Nintendo LABO project and decided that we wanted to create one or more Toy-Cons ourselves.

The course expects us to put in about 84 hours a person, so the project probably will not be near market standards by the time of our deadline, Friday the 13th of April. Therefore the designs will be prototypes that centre around the actual embedded software mechanics, rather than providing a fully fleshed out software package.

Upon requesting a development kit through e-mail contact we were urged to send in our designs. Hence, we drafted this document. Please enjoy the read and let us know your opinions on it.

## Designs

### Guitar

Our first design is focused around a guitar, as can be seen in figure 1. The guitar will have three buttons. Pressing a combination of these will select a note. Furthermore, the guitar will have a bar that can be tapped upwards and downwards. Doing so will play the selected note. Lastly, a capo can be attached at the top of the guitar. This will alter the notes played.

The buttons will have pins underneath them with springs. When pressed, a white marked spot on the pin will be visible to the IR Motion sensor of the right Joy Con. When released the pin will be pushed out of vision by the spring. Pins of of the different buttons are placed alongside each other, allowing the IR Motion Sensor to make a distinction between the different buttons. For example, if the sensor detects a white spot on the left side, the top button is pressed.

The bar that produces notes will be connected to the stick of the left Joy Con. Tapping the bar upwards and downwards will move the stick up from left to right, showing the Switch that there is tapping.

The capo contains a NFC-chip. It is placed near the head of the guitar. As mentioned before, the right Joy Con is placed here Note that different capo's allow for different modifications of the guitar sound.

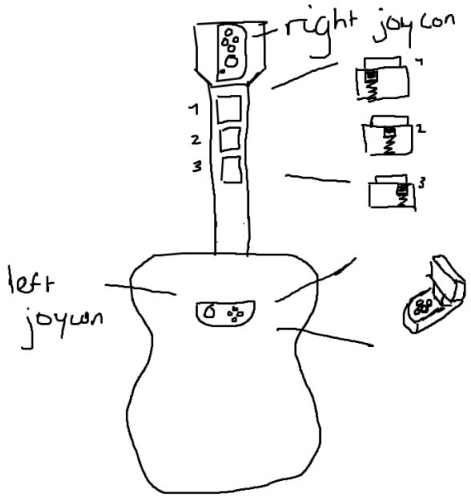


Figure 1: The guitar sketch

## Cooking

The second design will look into an interactive cooking game. It will include two Toy-Cons, a frying pan and a cooking utensil, as illustrated in figure 2.

The frying pan holds the left Joy Con controller, making use of the accelerometer and the gyroscope to allow for mimicking of usual movements that one does with a pan.

The right Joy Con is put in a simple handle, on which you can fit multiple utensils. The utensils have different NFC-tags in them. The right Joy Con reads the identity of the utensil and passes this information to the program. As with the frying pan, the basic movements of the cooking utensil can be read. Finally, note that the software cannot expect a relative position between the frying pan

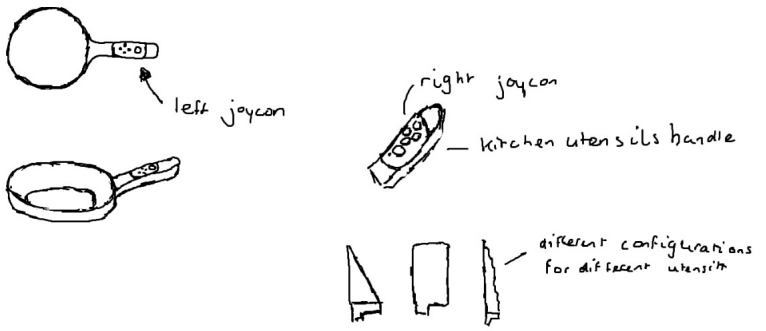


Figure 2: The cooking sketch

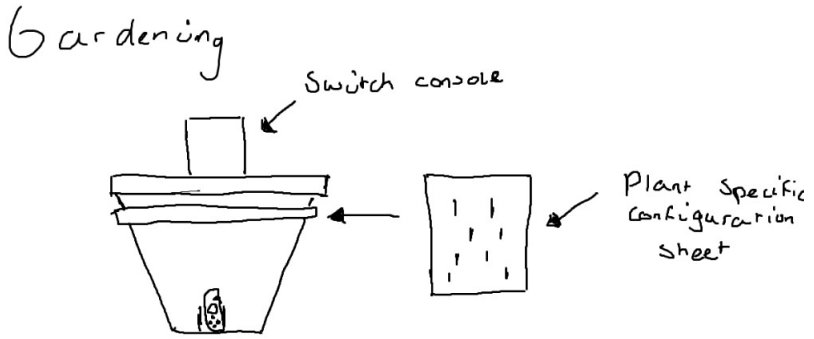


Figure 3: The gardening sketch

and the cooking utensil, since it has no positions of the two Joy Cons.

### Gardening

The gardening design consists of a flower pot with the Switch console placed on top of it. By placing cards in the flower pot, different plants can be selected as can be seen in 3. A second Toy Con is provided in the form of a watering can.

The flower pot itself is a simple design: there's a socket inside for the right Joy Con to fit in with the IR Motion Sensor pointing upwards, and a socket on top of the flower pot for the Switch console to fit in vertically. It has opening on the side in which the plant sheets can be inserted and scanned by the right Joy Con.

The plant sheet is a simple sheet of cardboard with a specific configuration of white dots: these configurations are known, and as such, every configuration represents a different plant. The main idea is to take care of the plants and see them grow.

The watering can is similar to the frying pan in the sense that it's gyroscopic and accelerometric information will be measured and passed on the program.

## Conclusion

Thank you for reading this proposal. Should you have questions, please contact us. We hope that our concepts for the Nintendo Switch are sufficient for receiving a Development Kit. Please let us know what you think.

Kind regards,
Janneau Thijssen, Justin Reniers, Frank Gerlings
Students at Radboud University Nijmegen, The Netherlands
NDL_Team_Wintendo