



# BORIBON GAME

Technical Design

Version 1.2

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# Document Control

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## Document Signoff

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Author	Virag Szabo	Project Member
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## Document Change Record

Date	Version	Author	Change Details
17 May 2021	1.0	Virag Szabo	Created the first complete draft.
17 June 2021	1.1	Virag Szabo	Complete the document.
18 June 2021	1.2	Virag Szabo	Finalize the document.

# Introduction

## Abstract

This document concludes all the detailed information about my final assignment of JavaScript which is part of the last period of the second year at NHL Stenden. Answers all the questions, including the research which has done, and shares more details about the idea than the proposal document.

## Rationale

What would I like trying to accomplish with this game?

This project is all about showing a fun way to learn the colors for children. The idea came from a popular Hungarian story, called Boribon. As I know, kids love coloring and using different colors, so this way they can learn which color which as they are coloring the empty balloons, they can hear the colors' name. They have a chance to learn in multiple ways.

What is wrong with things the way they are now?

Right now, children try to learn online due to Covid-19. Perhaps, they are already back in school slowly, however, it is still hard to find motivation, especially between age 1-5. Parents use their home office to work, and they hope their kids are well-behave and learn. Every adult would be calmer if their little ones are doing great and solving small puzzles.

## Background

The idea of this game is from my mom, Anita Foldi. She is going to make a summer camp for small children (aged 1-5) who are still learning how to talk in Hungarian before reading texts. That is why the view of this project is more important than words and sentences. We were talking about what I can do beside school which can be useful, and we came up with a coloring application according to a popular story in our native country.

Boribon is popular Hungarian story written by Veronika Marek. It is about a little bear and a girl, Annipanni who owns the Teddy Bear. They are best friends and Boribon learns a lot from her owner. The books show the adventures of Boribon at night, during hiking or a birthday, and so on. They were published around the beginning of 2000.

## Extra Information

I consider making more games later using the stories and help my mother making her own online lectures more enjoyable and admired around the world where there are half-Hungarian youngsters. Think about using topics like animals and the nature, maybe create an interactive story from the tales. As you can see, the website is in Dutch since I am studying in the Netherlands, I thought it would be better if the site does not be on my native language now. I can re-translate any time and give a chance to my mother to use it in the future.

# Proposed Design

The application is going to be a painting program for coloring balloons. This is going to be made for children between age 1 to 6, so they can play and learn which color which. It cannot be boring, and the little ones cannot lose focus during the class or anytime their parents would like to give them something educational.

## Data Flow Model

There is no need to store any data while the user is playing with this game. The game is just going to show the present structure, so every loading is going to make a fresh, new start for the player, or the user can even clean her/his work and start again any time if they click on the right button.

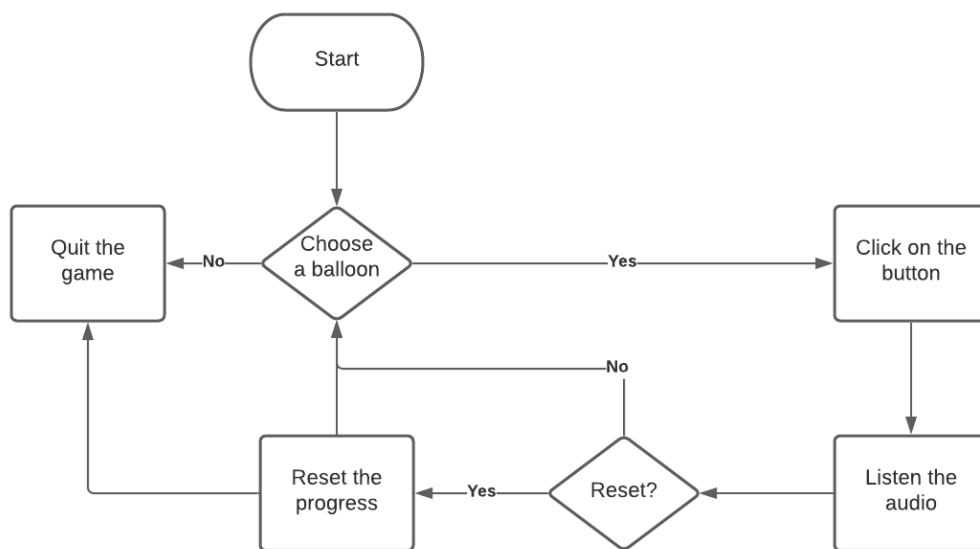


Figure 1

# System Design

This chapter concludes more details about the structure of the software.

## Functions

This is a table of the functions of the program.

Name	Input?	Output
<b>changeRed()</b>	New Audio and emptyRed.src is changing	Sound: “root” Picture: full red balloon
<b>changeOrange()</b>	new Audio and emptyOrange.src is changing	Sound: “oranje” Picture: full orange balloon
<b>changeYellow()</b>	New Audio and emptyYellow.src is changing	Sound: “geel” Picture: full yellow balloon
<b>changeGreen()</b>	New Audio and emptyGreen.src is changing	Sound: “groen” Picture: full green balloon
<b>changeBlue()</b>	New Audio and emptyBlue.src is changing	Sound: “blauw” Picture: full blue balloon
<b>changePurple()</b>	New Audio and emptyPurple.src is changing	Sound: “praas” Picture: full purple balloon
<b>changePink()</b>	New Audio and emptyPink.src is changing	Sound: “roze” Picture: full pink balloon
<b>clearCanvas()</b>	All the empty balloons photos	On the canvas, the balloons become empty again

## Files

This section explains all naming conventions used (files, programs, modules, other structures).

Types	Names
<b>HTML</b>	balloons
<b>CSS</b>	balloons
<b>JavaScript</b>	balloons
<b>PNG</b>	blue_balloon
<b>PNG</b>	green_balloon
<b>PNG</b>	red_balloon
<b>PNG</b>	orange_balloon
<b>PNG</b>	yellow_balloon
<b>PNG</b>	purple_balloon
<b>PNG</b>	pink_balloon
<b>PNG</b>	empty_blue_balloon
<b>PNG</b>	empty_green_balloon
<b>PNG</b>	empty_red_balloon
<b>PNG</b>	empty_orange_balloon
<b>PNG</b>	empty_yellow_balloon
<b>PNG</b>	empty_purple_balloon
<b>PNG</b>	empty_pink_balloon
<b>M4A</b>	Blauw
<b>M4A</b>	Geel
<b>M4A</b>	Groen
<b>M4A</b>	Oranje
<b>M4A</b>	Paar
<b>M4A</b>	Roze
<b>M4A</b>	Schoon
<b>Word document</b>	ProposalDocument
<b>PDF</b>	ProposalDocument_VSZ_4727444
<b>PDF</b>	ProposalDocument_VSZ_4727444_V1-1
<b>PDF</b>	ProposalDocument_VSZ_4727444_V1-2
<b>Word document</b>	Technical Design
<b>PDF</b>	TechnicalDesign_VSZ_4727444

## Programming Standards

This section covers the project programming standards. The aim is to create a convenient and easily usable method for writing good-quality software.

### How does the modularity and structuring look like?

The HTML, CSS and JavaScript are all on different documents. The style and the complex features of the website are connected to the script side. This way, everything, which should together, is in one file. All, the animations, the sounds, the colors, sizes, margins and so on, have their own individual file.

I could have generated all 7 balloons in a loop, but my plan is to extend the game in a fun way, when they will look and behave somewhat differently in the future.

### How does layout look like?

The website looks like this (*figure 2*) after the animation was done when the user opened the page. Easy to able to use this website. For the goal of doing this for little children, this look might be the perfect solution.



*Figure 2*

### What kind of language constructs are used?

HTML is being used for the website structure, while the CSS gives some style to look fresh and more friendly. JavaScript which includes the main part of the functionality of the site. jQuery is being used to animate the empty balloons when the website is being refreshed.



# Software Development Tools

This section includes a list of tools which are assisted for the software development, including testing.

## What kind of application development tool is used?

The software was implemented in JavaScript, HTML, CSS, and jQuery by using Visual Studio Code, the newest version of the tool.

## What kind of tool for drawing diagrams are used?

For drawing diagrams, the tool that was used is the Lucid.app website.

## What kind of testing tools are used?

I used Chrome for testing how the website is working, and every functionality of the software is working as coloring and listening the name of the specific color that got clicked on.

# Component Description

This section includes a detailed description of the components in hierarchically order.

## Component Identifier

Each component has a unique identifier which are used for components by the project.

Name	Type	Purpose	Function
Empty red balloon	Img	Coloring	changeRed()
Empty orange balloon	Img	Coloring	changeOrange()
Empty yellow balloon	Img	Coloring	changeYellow()
Empty green balloon	Img	Coloring	changeGreen()
Empty blue balloon	Img	Coloring	changeBlue()
Empty purple balloon	Img	Coloring	changePurple()
Empty pink balloon	Img	Coloring	changePink()
Schoon	Button	Clear canvas	clearCanvas()

What operations must have been taken place before this component is called?

Before the use click on the balloon, the balloons are called a JQuery function to able show up, side by side (from left to right). Also, for cleaning anything by the button, it is necessary to color at least one balloon, so you can hear the name of the color again.

What components must be executed?

All the seven balloons must appear on the screen to able to play with the coloring game.

## Impact

This website provides for kids to learn the colors of the rainbow in a fun and easy way. They can hear and see them while they make the empty balloons full as clicking on each of them one by one. The impact of this is having a playful and helpful learning tool for small children.

## Risks

Without some further ideas the game might become repetitive. Also, the game was not tested on smartphones and tablets, and to reach more children, that should be considered.

## Alternatives

I was considering using a better coloring system, however, the tools I have found on the internet for building up a coloring website was not helpful. At the end, the chose solution for solving this assignment went differently. The result came out even better than the expectation was.

## References

Figure 1: This is a picture of the dataflow how the software works.

Figure 2: This is a layout of the website.