**First Draft of Abstract Use Cases. Expand into Business and System Use Cases.**

**{Fractal Engine Canvas}**

**Author (s):** **Brandon Nadeau** **Date:** **3/4/2022**

**Version:** **0.0.1**

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| **USE CASE NAME:** | Fractal Engine (Simple) | **USE CASE TYPE** |
| **USE CASE ID:** | FE\_001 | Abstract: þ |
| **PRIORITY:** | Highest | Extension: **o** |
| **INVOKED BY:** | User, General requirement |  |
| **PARTICIPATING ACTORS:** | User | |
| **DESCRIPTION:** | The user should be able to generate different fractal types with as little effort as possible. | |
| **PRE-CONDITION:** |  | |
| **TYPICAL COURSE**  **OF EVENTS:** | **Step 1**: The user selects the simple setup. | |
|  | Step 2: The user selects the type of fractal to generate | |
|  | Step 3: The user clicks the “Generate Button”  Step 4: The system takes this information and generates a random fractal of users selected type. | |
| **ALTERNATE COURSES:** |  | |
| **POST-CONDITION:** | The system should render a fractal image on the webpage’s canvas element. | |

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| **USE CASE NAME:** | Fractal Engine Download | **USE CASE TYPE** |
| **USE CASE ID:** | FE\_002 | Abstract: þ |
| **PRIORITY:** | Highest | Extension: **o** |
| **INVOKED BY:** | User, General requirement |  |
| **PARTICIPATING ACTORS:** | User | |
| **DESCRIPTION:** | The user should be able to save their generated fractal as an image. | |
| **PRE-CONDITION:** | The canvas has a generated fractal image being displayed. | |
| **TYPICAL COURSE**  **OF EVENTS:** | **Step 1**: The user selects clicks the “Download” button. | |
|  | Step 2: The user specifies what type of image file the canvas should be saved as. | |
|  | Step 3: The system compiles the generated fractal as an image and sends it to the user. | |
| **ALTERNATE COURSES:** |  | |
| **POST-CONDITION:** | The system should send the image to the user, which should prompt their browser if they want to open or save it (depending on the browser.) | |

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| **USE CASE NAME:** | Fractal Engine Save | **USE CASE TYPE** |
| **USE CASE ID:** | FE\_003 | Abstract: þ |
| **PRIORITY:** | Highest | Extension: **o** |
| **INVOKED BY:** | User, General requirement |  |
| **PARTICIPATING ACTORS:** | User | |
| **DESCRIPTION:** | The user should be able to save their generated fractal as an image so that they can open and modify it later. This should happen in the user’s “Creations” page | |
| **PRE-CONDITION:** | User is logged in. The canvas should have generated a fractal image or should have settings that have been modified in the more advanced fractal engine. | |
| **TYPICAL COURSE**  **OF EVENTS:** | **Step 1**: The user selects clicks the “Save” button. | |
|  | Step 2: The user specifies the name under which the generator will be stored, and presses save. | |
|  | Step 3: The system makes a copy of the current generator’s parameters and components and saves them on the server. | |
| **ALTERNATE COURSES:** |  | |
| **POST-CONDITION:** | When the user navigates to their creations page they can select and open the generator and being to modify the generator from the previous state. | |