Part 1

Purpose
Piet Mondrian, renowned for his iconic abstract paintings characterized by straight lines and rectangles, has inspired numerous online Mondrian art generators. Intrigued by this concept, I found it fascinating but decided to embark on a different creative endeavor due to the saturation of existing tools. Enter Kazimir Malevich, a similarly abstract artist using diverse sizes of rectangles in his works. This led me to develop a unique Malevich art generator, distinguishing itself as a novel venture in online art creation tools.

Information
Initially, the platform featured only a canvas for users to craft their Malevich-inspired art. Feedback, however, revealed a desire for more information about the artist. Consequently, I expanded the platform by incorporating introductory pages detailing Malevich's biography and showcasing some of his most influential paintings.

Engagement
The platform not only offers an immersive experience for users to delve into Kazimir Malevich's abstract artistry but also provides valuable insights into the artist's life and work through informative pages. Users appreciate the opportunity to not only gain knowledge about the artist but also to actively participate in the creative process by generating their own Malevich-inspired art. The unique combination of information and interactivity has garnered positive feedback, making the platform appealing to a diverse audience.

Target Audience
The versatility of the website caters to a broad audience. Its user-friendly interface and informative content make it accessible to those seeking to learn more about the artist. Simultaneously, the interactive art generation feature ensures a fun and engaging experience for individuals who simply want to explore their creativity with a click. Consequently, the platform appeals to a wide range of users, irrespective of their background or level of familiarity with art.

Part 2

- Open up the website
- Click on "Discover Kazimir Malevich" or "Create Your Own Malevich Art"
    - If "Discover Kazimir Malevich"
        - Click "Next" to see next page
        - Click "<-" to go back one page
        - Click the home icon to go back to the home page
    - Else
        - Click anywhere on the screen to initiate drawings (There is a one sentence instruction showing on the canvas and once you click anywhere on the canvas it will disappear)

- - Click anywhere on the canvas to generate rectangles
  - Click "Undo" to delete the previous rectangle
  - Click "Clear" to clear the canvas and restart drawing
  - Click "Save" to take a screenshot of the page and save the artwork
  - Other buttons are the same as what mentioned above

Part 3

I use a JavaScript library called "html2canvas," which captures a screenshot of the current window and saves it locally on the user's device. I opted for this library with the intention of providing users the convenience of saving their creations. It internally eliminates the need for users to manually take screenshots. Although the library itself is user-friendly, I experimented with a more complex approach. Simply taking a window screenshot would include all the buttons in the image, diminishing the aesthetics of the drawing and potentially displeasing users. To address this, I implemented a process wherein, each time a screenshot is taken, I generate a clone of the current window, removing all buttons and retaining only the drawings. This not only enhances the functionality of my website but also contributes to an improved user experience, particularly for individuals who want to store their artworks.

Part 4

I made 4 major changes from user testing done at the different phases of the project.
- The first version I had was a linear process where users first learn about the artist and then start creating. Participants reported that they want to have the freedom to jump to the interaction part directly without having to read about the artist. So that's why I prepare two options for users on the first page.
- I initially only had one page to include 4 of Malevich's artworks but someone said four small pictures in one page doesn't look good so I separated them into individual pages.
- The save function at one time took the screenshot of the window and included all the buttons which isn't ideal so I did what I stated above to screenshot the creation only.
- I initially didn't have a undo button and later I thought it would be very useful to incorporate

Part 5

The biggest challenge is to make the generated art as close to Malevich's real paintings as possible. I spent so many hours studying his paintings, looking for patterns of the rectangles, and trying to translate the patterns into coding language. However, it's extremely difficult to do

because the patterns are different across his paintings and they are artistic patterns which are hard to convert into coding languages. I reached a point where manually specifying all the rules for the system to generate rectangles became impractical, prompting me to halt further attempts. Nevertheless, I did establish certain rules through coding to ensure that the generation of rectangles is not entirely random and aligns closely with the characteristics of real paintings.