

## High-level Requirements

- 1) The **application** shall be Web-based, and the front-end must be designed such that the application may be accessible from any device via browser that supports HTML5.
- 2) The application must be able to convert an **image** into equivalent HTML/CSS/JavaScript **generated code**.
- 3) The user must be able to upload an image such as PNG or JPEG from their device. If the device supports a **camera** feature, the user may choose to take a picture using the camera instead.
- 4) The application shall provide the user a list of **building blocks** and **keywords** to use when constructing the image.
- 5) The application shall utilize a pre-trained **Artificial intelligence model** to detect a website's **building blocks** from a user's uploaded image.
- 6) The trained model should detect keywords and building blocks with at least 80% accuracy.
- 7) The trained model should have at least 60% accuracy in converting image into code.
- 8) The keywords used will allow the Artificial Intelligence model to assign **attributes** to the detected building blocks.
- 9) The application shall use the detected building blocks and create equivalent HTML and CSS generated code to represent the building block with respect to all other detected building blocks.
- 10) The application shall use the attributes to build JavaScript generated code that will make the generated HTML/CSS code behave according to the attributes.
- 11) The computation time of the code generation should not exceed a minute.
- 12) A **processing page** must be displayed while the AI is generating the code.
- 13) The processing page will display:
  - a) The user's uploaded image.
  - b) The building blocks detected from the uploaded image.
- 14) A **result page** will be displayed once processing is done.
- 15) The result page will display:
  - a) The generated HTML / CSS / JavaScript code.
  - b) Output of the generated code as a rendered web page.
- 16) The result page will have a button that will copy all code into the clipboard, or download the generated code as a **zip file**.
- 17) The result page should allow the user to generate code for a new image.