1. Student Name: Kee Fung Ho, Joan Beatrice Tan
2. Project Name: LEGO Pixelate
3. Technology stack:
   React, NodeJs, JS, and SQL.

4. Project Purpose: This application will convert a provided image to a set of instructions to recreate the image using LEGO bricks. Breaking down pixels from jimp library for Node.

5. Features list:
   a. Front-end:
      - Page to upload image;
      - Specify width, length;
      - Convert image to series of LEGO bricks;
      - Output image available for download as JPG;
      - Output list of all required bricks and quantity styled in typical LEGO instructions;
      - Output display of copyable matrix of colours; downloadable instructions in PDF;
      - All image inputs/submissions saved in database;

   b. Back-end:
      - Login to control panel;
      - Add, edit and delete converted images;
      - View instructions; export instructions to PDF;
      - Convert HTML first (to see it works) and then find tools to convert to PDF;
      - POST /api/convert that will convert specific image to matrix of LEGO colours;
      - GET /api/segment that will send the data required to build a segment for broadcast to BrickMMO Radio;

6. Features Breakdown:
   a. Narrative description

   b. User stories

Pixelate will be a user-friendly website that eliminates the need for a log-in function, making it accessible to everyone. This means that anyone who wants to create a pixelated version of an image can easily do so without having to go through the hassle of creating an account.

- Amy wants to gift Sheldon a personalized LEGO set of a photo of him wearing a Green Lantern shirt as a birthday present. Amy uses “pixelate” website to upload the photo. Amy remembers that Sheldon loves Batman more, so she decided to change the photo of her choic. Fortunately, Pixelate's easy-to-use interface allows her to quickly make the necessary changes to the image, and she can download the pixelated version of the photo in JPEG format. Additionally, she can also download a PDF of the instructions manual, making the entire process hassle-free.
- Amy can only access and edit the images she has uploaded to Pixelate. She does not have access to other user's uploaded images.
- While Amy can interact with the user interface of Pixelate, she does not have control over the design and layout of the website.

The admin can log in to the control panel, where they can add new images, read existing ones, edit images, or delete them if necessary. This feature is particularly useful for website administrators who want to keep the image library up to date with the latest trends and user demands.

c. Database description (including entity map)
https://humberital-my.sharepoint.com/:x:/g/personal/n01574058_humber_ca/EUoJs-acoa9IrCz_gISY4JoBcwx_30k5rnEXM8pgcbpNDw

Admin table	
admin_id	primary_key
admin_name	varchar
admin_email	varchar
admin_pw	Enum

Main_page	
Primary_key	numeric
Foreign_key	numeric

Home	text

About_page	
Primary_key	numeric
Foreign_key	numeric
Main_parent	text
About_page	text

Purchase_page	
Primary_key	numeric
Foreign_key	numeric
Main_parent	text
Purchase_page	text

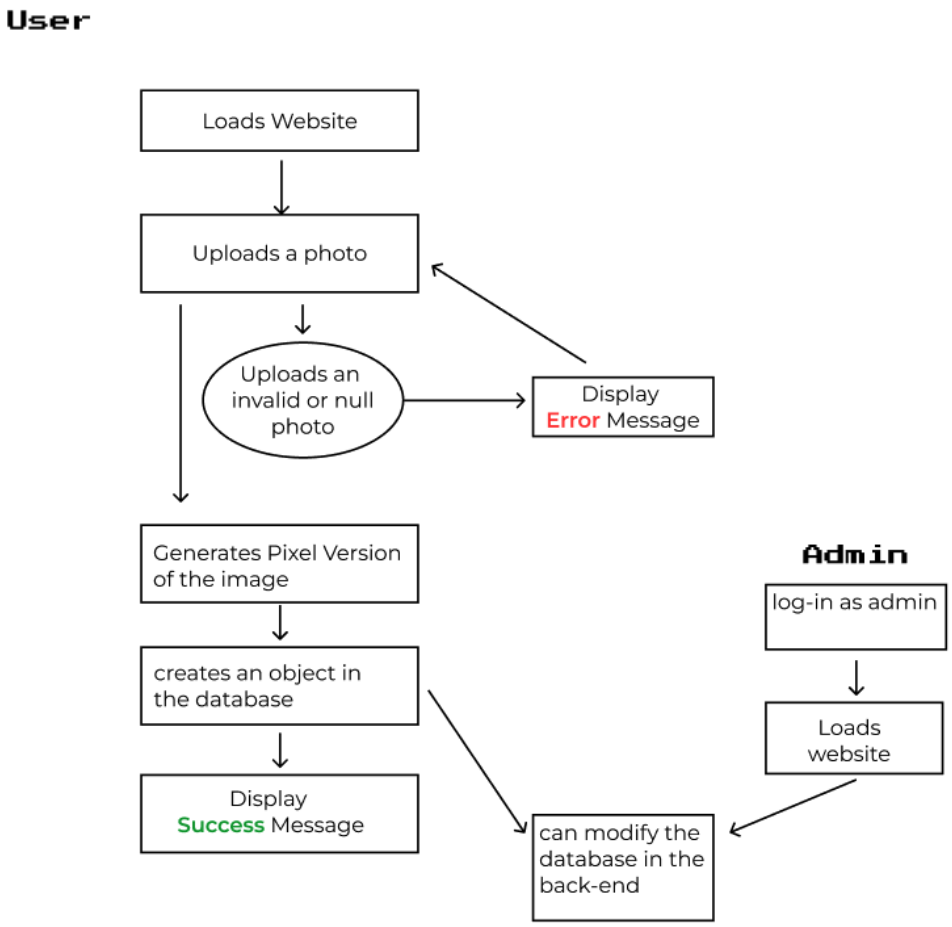
Upload_section	
Primary_key	numeric
Foreign_key	numeric
image_id	numeric
image_name	text

Download_section	
Primary_key	numeric
Foreign_key	numeric
image_id	numeric
image_name	text

d. Dataflow diagrams

Figma Link:
https://www.figma.com/file/hfjkNgIWgK1WaSrslrzJ9M/PixelateWireframe?type=design&node-id=18-332&t=X2EU84Jqn84C4v3P-0

Under Dataflow Diagrams Page



e. Wireframes
Figma Link:
https://www.figma.com/file/hfjkNgIWgK1WaSrsIrzJ9M/PixelateWireframe?type=design&node-id=0%3A1&t=sbeyBdqjTmzAz5Qn-1

7. Project Timeline
https://humberital-my.sharepoint.com/:x:/g/personal/n01574058_humber_ca/ESC8_CpPxpdBieFmxjJmtfoBkWxNUIEOH5f-Dq2SgIm4bA