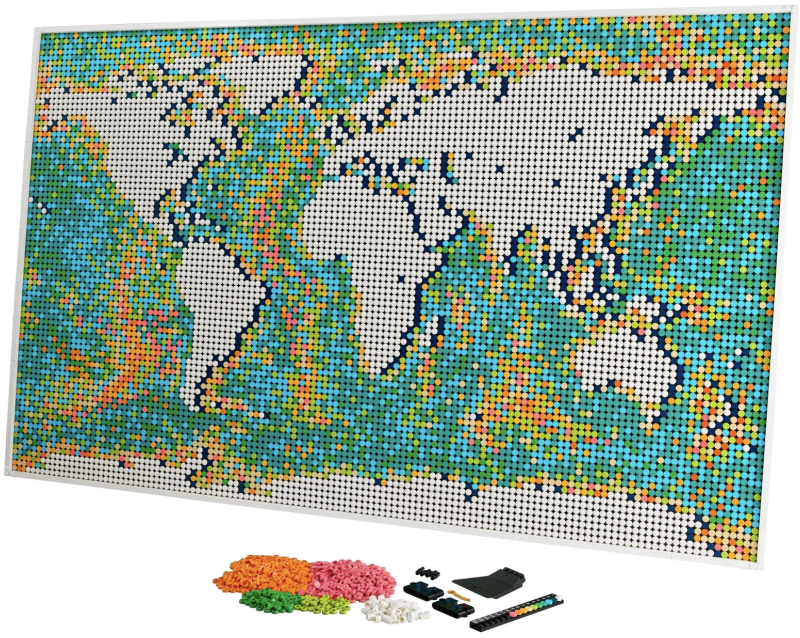
App: Pixelate: Phase #1

Date: Feb 27th, 2023
Domain: https://pixelate.brickmmo.com
GitHub: https://github.com/codeadamca/brickmmo-pixelate

Application Purpose:

This application will convert a provided image to a set of instructions to recreate the image using LEGO™ bricks.

The end result will be instructions to create something similar to the LEGO™ World Map (https://www.lego.com/en-us/product/world-map-31203):



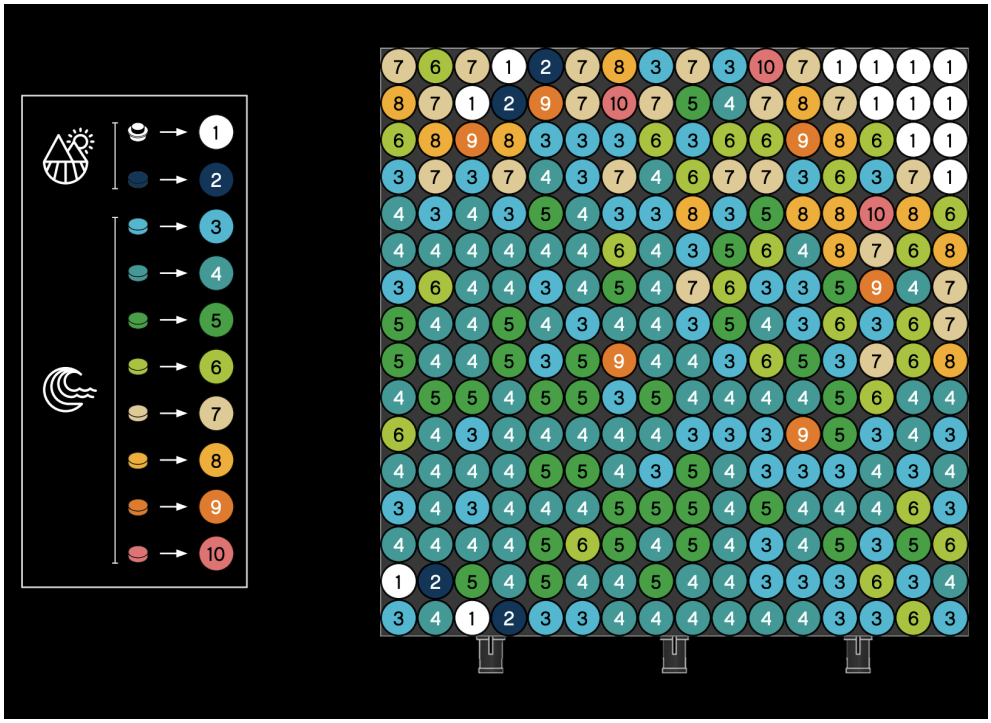
Front-End:

Front end facing application will include the following features:

- A place to upload an image, specify width and height, and convert the image to a series of LEGO™ bricks (similar to https://legoimage.com/ or https://mingze-gao.com/apps/legao/)
- Resulting image can be downloaded as a JPG
- Result will also display a list of required bricks and quantity, should be styled like typical LEGO™ instructions

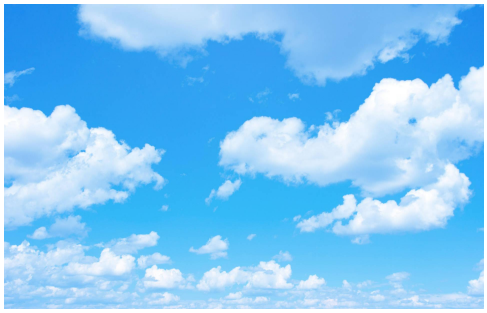
- Results will also display a copyable matrix of colours
- Instructions can be downloaded as a PDF
- Each submission will be saved to the database

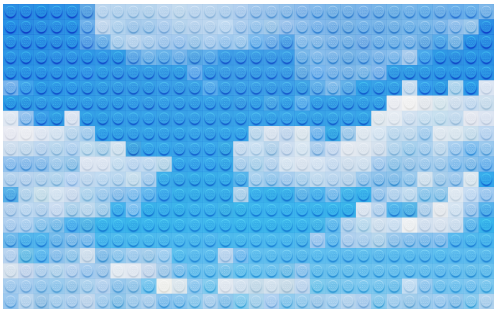
Instructions will look similar to this:



Taken from the World Map LEGO™ instructions:
https://www.lego.com/cdn/product-assets/product.bi.core.pdf/6372756.pdf

Sample conversion





Back-End:

Application will include a control panel to achieve the following:

- Login to control panel
- Add, edit, and delete converted images
- View instructions
- Export instructions to PDF

API:

Application API will include the following API calls:

Method	**Endpoint**	**Description**
POST	/api/convert	Converts a specified image to a matrix of LEGO ™ colours. **Parameters:** image (required): posted JPG, PNG, or GIF width (required): number of studs wide heigh (required)t: number of studs high format: format to return data in, default is "json"but also accepts "jgp" **Returns:** A matrix of colours for each LEGO ™ brick or a JPG format image.