

Automatic HTML Code Generation from Mock-Up Images Using Machine Learning Techniques

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Abstract As a first step of designing of website is start to built the mock-up images for the particular web pages by operated with the hands or using mock-up developer tools. It is efficiently used for the developer to transferring web pages mock-up to the coding. It's generating the proposed system to creating the wireframe to the layout interfaces there are two techniques mostly used first is computer vision and second is deep systematic analysis. The automatic code generation is time reducing and cost effective. We have design structured an outline the design.

Key Words: convolutional neural network, object recognition[7] automatic code generation, HTML. Deep learning[3], object detection.

1. INTRODUCTION

Nowadays, the internet is the most important in our day to day life. Websites are presents in every fields. The design cycle for a website opening due to creating mock-up for separate webpage further away drawing by hand or by drawing in paint designs and intensive mock-up formation apparatus. The mock-up images were then transformed to HTML by software engineer. This proceeding is recast extra instant as far as the wanted template is not get. Our main target is to equip html code out of hand drawn images. We use convolution neural network, computer vision technique and also deep learning was used for our proposed system. In today's world websites review the institution, hotels, business, people, etc. Websites are use in each and every factor. From education to knowledge, from training to social work. At the front end of every site that concert with the user. It is actual relevant to give a surface a certain attraction in the user, it is very easy to use and it has sufficing advanced attribute. In other way, creating webpage which gives active respond expertly for this it required a very tiring pathway. In the developing of webpage, many software engineering developer are working together to designing the front view of the webpage. Software designer built code to design the webpage basis on

the draft. The resulting webpage can convert depend on feedback received by the as in user. For the elements built the code with same feature with page format converting instant turn into the steps difficult. This emerges the need for expanding more improved feature in a webpage format. The proposal of structured the webpage by crating automatic code is very interesting as a research subject. Generation of automatic webpage minimize coding instant, steps price as well as resource. So by this way thanking to the speedy pattern steps, the final website is create in a very less time period. In our survey, methods were used for automatically developing the hand drawn images by generating code for it. It's aim to observe the factor create the hand drawing by making encrypt the system in the way of the webpage format.

2. RELATED WORK

2.1 Proposed plan:

Our main aim is to convert the hand drawn mock-ups which contains textbox, buttons, picture into the HTML code to make a website template or front end of our websites according to hand-drawn mock-up which is conceptual drawing. In order to convert this hand -drawn image into the HTML code to frontend template we used computer vision technique CNN model, object recognition, cropping etc. The author work on object detection algorithm to detect the component from the hand-drawn image. The author work on object cropping algorithm to crop the object like button, textbox, dropdown etc. The author works on object reorganization algorithm by using CNN model to train our purposed system by using data set we tested it on IOS platform. It work successfully & result have been obtained. The author work on HTML builder algorithm which convert the detected object using CNN model by object reorganization algorithm to the HTML code using HTML builder algorithm.

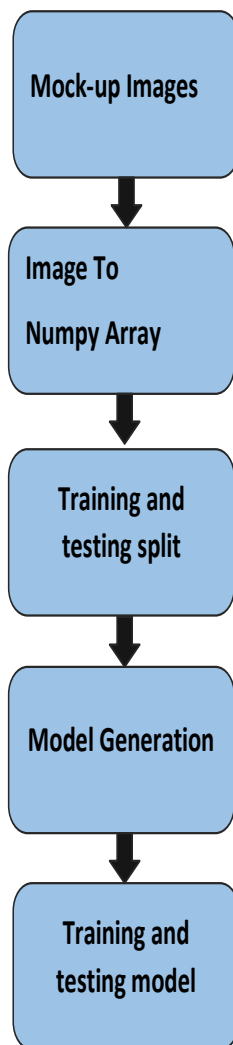


Fig-1 Workflow

The first step while using the HTML builder algorithm is to execute the computer vision techniques which is used for detecting the each single GUI component. The next step is to classified the detected component into the classes by the way of their working such as textbox, checkbox, toggle etc.[2] For this step we used deep convolution neural and at last the XML programming code is form according to web programming structure. The author use program SUJSE called search programming by using this users rectify GI by simple hand-drawn & keyword. In this we use dataset of Microsoft AI lab in a way to create our dataset. [5]

2.2 Dataset:

In proposed system we used the hand-drawn image from the Microsoft AI lab in a way to create our dataset. We choose the format of images which contains textbox, toggle button, dropdown,

checkbox etc. After that we crop each component & send it our CNN model to train it. [1]

2.3 Methods :

In this study there are four steps carried out. First one is object detection process is done on input. After that this identified components are cropped & this all process we are done by using the tensor flow libraries. And at last output from this process is converted into HTML code by using HTML builder algorithm. [6]

2.4 Object detection:

Afterwards getting input image file in png format from user input image converted into the array format. The 3*3 rectangle kernel is created outside the object to detect it by applying counter detection algorithm by this way components are detected. Afterwards the caught elements are cropped and then it transferred to next stage which is the convolution neural network model. [7]

2.5 Object Recognition:

The model was transferred by using the elements of components in our component dataset. Dataset be made up of four distinct kind of component which is textbox, checkbox, buttons, dropdown and etc. Cropped components reorganization process are done by given cropped component to the CNN model. [9]

2.6 CNN model:

CNN model have several layer for filtering such as convolution layers with 4*4 kernel & then there is max pooling process with 2*2 kernels which is used for the extraction after that factorization is done by using BILSTM layer for the correlation of extraction. After that pool full connected layer and last one is the dropout layer, all the layers working together to train the model. This whole process is done by directly importing keras library in our code.[7]

2.7 HTML Builder:

After the reorganization process the recognized component were converted successfully to the HTML code by using the Bootstrap framework. This all process done by using help of the coordinate from the output of the counter finding algorithm. In this HTML builder algorithm first of all we create the template for the header & footer of the websites after that we recognize how many components are there in one row with the co-ordinate of

component. Then we labelled the code of that each component for their template code after that the body section HTML code was generated. Lastly header & footer were combined so that the HTML code is generated.[2][4]

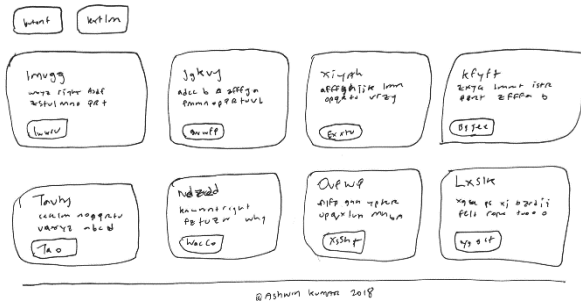


Fig-2 Input image

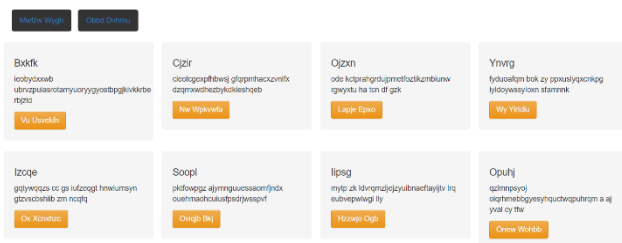


Fig-3 Output Image

3. RESULT

As a Result, the target of generated the Html code automatically from Mock-up image was profitably implemented. For this implementation, there are four principle stapes was done one by one. That include item exposure, item editing, item acceptance and HTML builder. These sequential process were the way post of expected structure. There is an CNN layered model was used for adopted in object identification step. Thus, multiple grammatical conversion and deep learning which is deeply familiarize in present years were also used. Finally, further algorithm for HTML code propagation, which is the terminal point of the our planned structure, was conferred.

4. CONCLUSION

Modify web page hand-drawn into HTML code with smallest instance and labour price has turned a important matter in present years. In a purposed system, author create a technique that takes hand-drawn images and allow a architecture to generate HTML code. For that close, our dataset be

composed of images consist of several hand-drawn pictures of web page layout was used. The dataset, which is composed of 3700 sample pattern in total, which were also been applied in the modelling of a matching dataset that include the element consist of each image. Hence, the dataset, which was generate by organizing completely the elements in 4 various groups, was passed down as teaching knowledge for the CNN model to execute the steps of item acceptance. The elements in the image were editing by achieving item exposure with graphic editing system. It was resolved which elements were pick up by our experienced CNN model. At last, the major goal of generation of code was manage using our HTML builder characters with the benefits of the accommodates came from the structure of shapes decision. As a consequence there is 96% and 73% correctness was obtain.

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