Walchand College Of Engineering, Sangli

(An Autonomous Institute)

A Mini-Project Report
On

"E-HEALTHCARE"

Submitted by

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2018-19 Class:TY CSE

CERTIFICATE

This is to certify the project report entitled as

"E_HEALTHCARE

Submitted by:

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Has undergone a mini project work and successfully completed in the academic year 2018-19(SEM:II)

Date: 18/04/2019

Place: Sangli

Mr. Nandini Mudegul

(Project Guide)

ACKNOWLEDGEMENT

We are rather infused by the kind guidance of Nandini Mudegul mam who put in the cradle of our Engineering studies and evaluated us to this end and mean of our project. We could not have been able to complete the project without the valuable guidance of the Respected Panel. Without the guidance of all these respected members, we are sure to be orphans in the vast ocean of Machine Learning and Web Technologies. In the end we would like to express a sincere thanks to all the people who helped us in the project completion directly and indirectly and feel lucky to have got their help.

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1. Introduction

1.1 Broad Area:

- An aim of a project is to have an access to the patients data to the doctor during treatment anytime anywhere.
- In this project we will develop system that will extract all the important data from the report and prescription given by doctor and store it to the database of patient..

1.2 Title of Proposed Project:

E_HEALTHCARE.

1.3 Brief Introduction:

The healthcare is the big point of concern in the today's world. There are system which holds the patients data digitally but this system can't be accessed remotely by the patients. Most of the multi-speciality hospital maintains the records of patients which are never use in the future for any purpose. There are no such system which are actively working globally for the patient's data handling and analysis. In current scenario, patient visit doctor each time and this data of diagnosis is just kept on piece of paper which may lost anytime. Some diseases of patient depends on past treatment hence it is important to preserve the data of patient during each treatment securely so that doctor can easily access that data and know about the diseases suffered by patient and prescriptions the patient has taken. Depending upon the data doctor can give prescription. Hence to cope up with this problem and to avoid the hectic task of carrying reports along with them, we are motivated to implement this project "E_HealthCare" which will make all the reports and data of patient remotely available to the doctors anytime anywhere.

2. Problem Statement:

To develop the website integrated with machine learning algorithms that fetch the information of patients diagnosis from the reports, prescription given by doctor during each treatment and store it accordingly so that whenever doctor want to know the data of any patient they can access it easily using "**E_HEALTHCARE**" portal.

3. Objectives:

1. To make the healthcare system more effective via giving the access to past data of the patient.
2. Centralizing the Patient's data and allow remote access.
3. To study the Concepts of Deep Learning , Angular 6 , NodeJS and MongoDB.
4. To implement the Convolutional and Recurrent Neural Network Model.
5. To implement NodeJS and Angular 6 for System Interface.
6. Reducing the misleads in judging the patient's condition.

5.Implementation:

The E-Health Portal is implemented using Angular 6, NodeJS and MongoDB. Since the data is for users need hence it is best in the business logic. Whenever any patient does his/her treatment from doctor the reports, prescription provided by doctor will be scanned by the authorised person. The CRNN model for Optical Character Recognition running into our system will fetch the required data from the scanned documents and store it in to the database of the patient. The user will be uniquely identified using Adhar ID. OTP will be used for proper authentication while updating the user account. Whenever doctor wants to have an access to the reports of any patient then at first OTP will be sent to the patient and once authenticated by the patient the doctor will able to view the reports and data of patient. The Spatial Transformation Network is used to improve accuracy of data detection. The keras API is used to implement the Model.

7.Future Work:

1) The statistics of this system can be used to monitor the diseases in the country.
2) The project can used by government to predicts the future thrust in the medical era.
3) This can be useful for creating healthcare network in the country which will help the doctor to redirect the patients properly among the themselves.

8. REFERENCES

Paper 1: End-to-End Text Recognition with Convolutional Neural Networks

- Stanford University,Stanford (Paper Link).

Paper 2 : Scene Text Detection and Recognition

- Shangbang Long, Xin He, Cong Yao.(Paper Link)

Websites References :

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- www.keras.io - Keras API documentation