Application Based Drug Recommendation System

Sumanpreet Kaur

Assistant Professor, Department of CSE, Chandigarh Engineering College, Jhanjeri, Mohali, India

Sumanpreet.j221@cgc.ac.in

Abstract*:* With the popularity of e-commerce people attempt to purchase medicine from online pharmacies. But ecommerce websites never provide information what quantity to use and where to use. Despite it convenience there are many issues. After we search online for the name of the medication associated with diseases, we found plenty of medicines. Choosing a drug between list of medicines may be a big challenge. So this paper represents a drug recommendation system which will help users to search out medicine associated with the disease.

Introduction

According to a survey in 2016 around 61% peoples prefers to purchase medicines from online stores. During a study of US found that around 96% websites was selling medicines in illegal way. With the demand of machine learning, data science, artificial intelligence and recommend systems .We can help doctors to prescribe medication correctly. Everyday new study comes with more drugs It is challenging for doctors which medication to allow the patient. If users hunts for medicines on the web, then they need to face many problems. This model only show essential data associated with diseases.The information associated with medicines are going to be obtained in one click. It suggests diet plan related to diseases and medicines.It recommends suitable food consistent with their health. Ones a user inputs a illness symptoms, he/she get some closest classification. This model consists of database, recommendation and data science.Our system will analyze data and provide accurate information.

Review of literature

Recommender systems use to recommend things to users by using algorithms. The concept of recommendation system was come in 1979. In 1990 Amazon was developed a recommendation system that help them to enhance their sales. There are three types of recommendation systems Hybrid, collaborative filtering and content based. Most of these systems used in e commerce areas, gym, food, tourism etc. We may use recommendation systems in the healthcare sector to offer medical recommendations on medication, treatment plans and diet plans.

Every type of systems have different concept - collaborative based system used first user data and recommend to other users. Hybrid system recommends by using collection of different recommendation systems. Content based recommends by using different ML algorithms. In this paper, we introduce a drug recommendation system that helps doctors and patients to get better result.

Methlodogy/planning

Our team aims to design drug recommendation system that provides multiple facilities to user in one project. In this project we will use databases for Back-end, React native for app front-end, Google maps API .

1. React native is a popular JavaScript-based mobile framework that allows building naively rendered mobile apps for IOS and android. So you can use any framework for GUI.

2. Expo go is a tool chain build around react native to help user quickly start an app. Expo currently runs on android and IOS and by using react we can make app and run that in all these environments. So we will

use Expo in android for checking the apps structure.this is only for React native framework. You can use any framework and design your model.

3. Databases used to store data related to medicine information and diet information. First we will find data from web and after that store data in relational manner. We will store data in excel and clean that data. After data collection we will create app back-end in Django. We will create six tables and insert data one by one.

4. API is also known as application programming interface. We will use maps API for nearby hospitals locations. First we will create the front end of the app using react native. After that we will connect databases with the app and insert the data in database. We will add api for maps and search.

Proposed system

In methodology we also discuss about databases . so after the collection of data we can create tables and connect them. After that connect it with GUI. We will also provide reports saving facility in this project . User can easily check near by hospitals.

1). Disease-info

Disease info can represent diseases information related to diseases. If user has headache then the system will show the solutions of that disease. We can add disease name and symptoms and other field in a table. And we can also connect it with medical table.In fig 1.1 you can see that we are representing disease name and other fields.

id	disease_name	disease_disp	causes	disease_type	prevention	treatement	symptons
2	Headache	Intense pain o...	NULL	NULL	NULL	NULL	pain on one side of ...
3	Stomach Pain	Abdominal pai...	NULL	NULL	NULL	NULL	Contact your doctor...
4	Back Pain	Back pain is c...	NULL	NULL	NULL	NULL	Back pain can rang...
5	Diarrhea	Diarrhea can ...	A number of f...	There are thre...	This is comm...	Mild cases of ...	1. Loose watery sto...
6	Mouth ulcers	Mouth ulcers ...	The exact cau...	Minor mouth ...	Mouth ulcers ...	1. You can us...	Mouth ulcers are e...
7	Constipation ...	Constipation i...	1. Poor dietar...	There are two...	1. Eat a high f...	1.Laxatives ar...	The symptoms of c...
8	Common cold	Common cold...	The most com...	1.Rhinovirus ...	1 Do not com...	There is no d...	The cold or commo...
9	Cough	Cough is a pr...	1 There can b...	1.Dry cough. ...	By knowing w...	Most cases of ...	Cough, which is oft...

Fig 1.1

2). Med-info :

This table shows the medicine related data . we can store medicine related description, uses, salts and other field in this table .This table will represent about medicine how much we can use and where to use. In fig 1.2 you can see that we are representing the medicine information.

Id	name	alternative_med	medicine_disp	benefits	how_to_use	side_effects	uses	salts
1	Dabur Honit	Mulban Kuka Cou.	It is used to treat	Helps in the	Take this syrup as a.	This syrup i.	Is effective i.	It contains
2	G-Care Mo	Becosules Syrup	G-Care Mouth U	In Treatmen	This medicine is for	No commo.	Treatment o	Choline Sa
3	Ibubid 300	Brufen, Ibugesic	Ibubid 300mg C	It is a com.	Take this medicine in.	Common si.	Pain relief, .	Ibuprofen(3
4	Prolyte OR.	Orsodom Capsal	ORS Powder a	Sodium chl.	Dissolve the content.	Be careful t.	ORS Powd.	Dextrose.

Fig 1.2

3). DFD(Data Flow Diagram)

It shows how the user and admin is connect to the data. It used to represent the flow of data between machine, user and admin. In fig 1.3 you can see that we are representing the user and the admin.
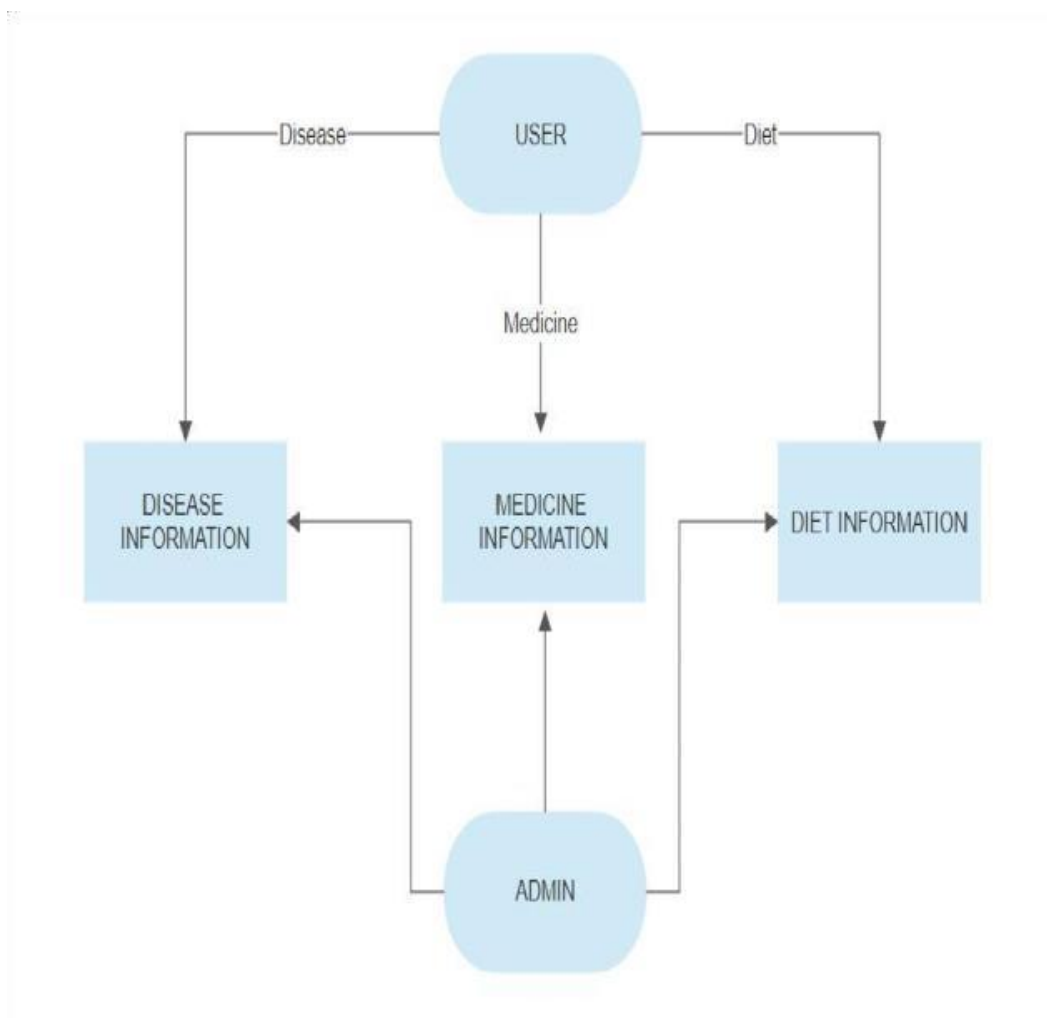

Fig. 1.3

4) Activity Diagram

Activity diagram present flow of control in a system .In fig 1.4 it is representing that user can select the disease that is connected with medicine information .if user enter his disease then it simply show the medicine information. So it is presenting the flow of control in the system.
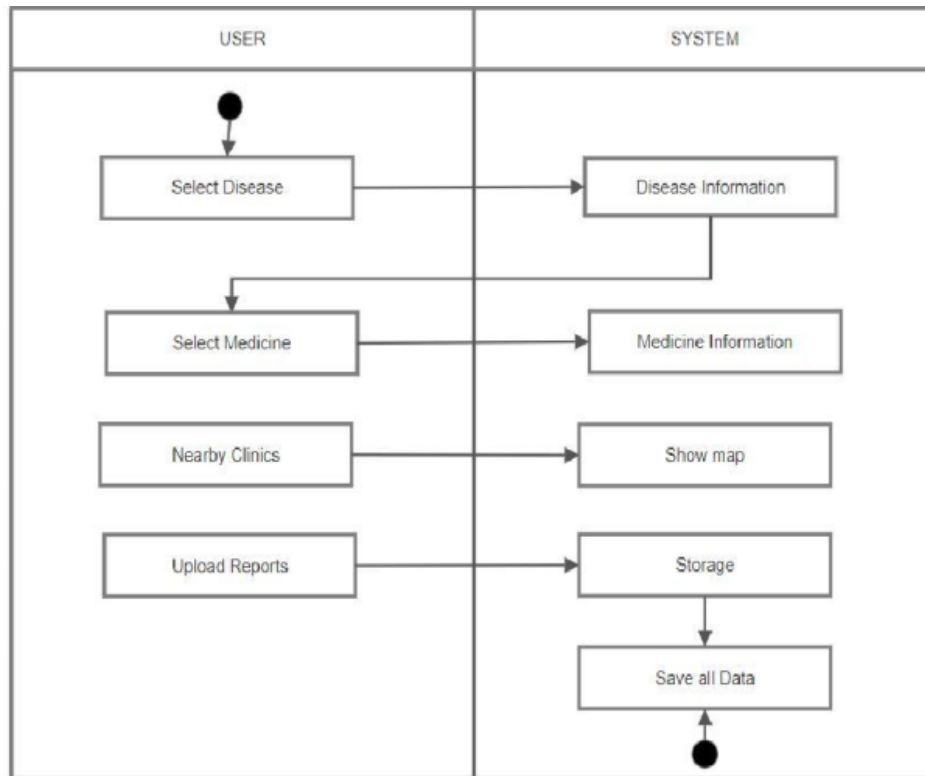

Fig 1.4

Results

This system will propose anticipated consequences. The medication is extra correct whilst the cost is extra. so, machine will display the high-quality medication via way of means of thinking about the very best suggest cost anticipated. The machine will display effortlessly close to via way of means of hospitals and dispensary .Finally, we expect the end result in addition to the anticipated end result time. User can saved confined range of check reviews and health practitioner prescription. By thinking about the very best suggest anticipated cost the machine will display the weight loss plan associated with diseases .The consequences supplied via way of means of the propose-er machine are displayed the use of a graphical interface.

Conclusion

The system could be very powerful and handy for medical doctors and peoples to use. The proposed device works as a device for assisting the medical doctors of their ailment diagnosis. This paintings contributes the first-class of control of sufferers enhancing the first-class of healthcare with fashions which are each obvious and safe. Health recommender structures have emerged as gear to help sufferers and healthcare specialists to make higher fitness associated decisions. In this project, we've got given insights into many eventualities supplied via way of means of those structures, along with meals recommendation, drug recommendation, fitness fame prediction, document storage, close to via way of means of hospitals. There nonetheless exist some of demanding situations that want to be tackled for the higher improvement of those structures inside the future.

Future scopes

Our method may be prolonged to special medical situations wherein recommend structures may be applied. The reputation and similarly improvement of the app is one of the subsequent critical steps and nevertheless calls for similarly improvement relying on unique necessities of the fitness management, the physicians or fitness professionals, and the patent population. All of our structures– in simple terms content-primarily based totally, in simple terms collaborative-filtering, and hybrid– finished pretty well. Looking returned at the project, one aspect that we'd have selected to do in another way looking back might were to spend greater time attempting to find a dateset of scores with a better score variance in line with user. Had we been capable of discover the sort of dateset, our implementations of algorithms might were examined on information that could were greater consultant of what a regular business advice gadget should get right of entry to in growing its predictions. Although this net utility has been well-hooked up to offer a platform for designers to assess recommend-er structures comprehensively the usage of special assessment metrics, there may be nevertheless a few paintings to do with inside the future. Expand to assist greater algorithms. The utility now best helps user-primarily based totally. As the utility is simply extensible for advice algorithms, it's far predicted to consist of different algorithms, inclusive of hybrid algorithms, content-primarily based totally algorithms, demographic-primarily based totally algorithms, etc.

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