

Synopsis

Project Title: E – Health Care Facilities

Abstract of Project:

The problems we face these days with our convention systems are missing on the doctor due to lack of an appointment, hampering our work when we lose or damage important medical records, missing out on a crucial dose of our medicine while we are busy in our work, etc. These are a few of the major problems each of us face in our hectic and busy life.

This project deals with the development and implementation of a smart-phone application that lets you make a pre-appointment with your doctor, digitally stores all our medical records on a secure cloud server and gives our loved ones peace of mind by reminding us to take our medicine on time. Users can easily make appointments with a doctor of their preference which is suitable to their convenience of time and date. As well as, users can input the symptoms that he/she is suffering from, and will be able to get an idea of the disease what he/she is suffering from. Medical records of the specific user will be uploaded by the doctor or hospital which can be easily accessed and downloaded by the user whenever needed. Using our phones facilitates the application can enable reminders to take the specific medicine at the specific time according to our medical prescription which is also uploaded by our doctors. Additional features of calling emergency services, giving location based details of hospitals and medical care facilities and general tips for health care are also incorporated in the application.

Internal Guide: Prof. Manali Vashi

Sponsorship: Persistent Systems Ltd.

External Guide: Mr. Saurabh Vaidya

Technical Key Word: Symptoms, Probability, Prediction, Recent Trends

Relevant mathematical models associated with the Project:

1. Set Theory

$$Z = \{U, S, D\}$$

Where,

$$U = \text{Set of user} = \{P, H\}$$

$$P = \{\text{patient1, patient2 ...}\}$$

$$H = \{\text{hospital1, hospital2 ...}\}$$

$$U = P \cup H$$

$$D = \text{Set of database} = \{Dt\}$$

$$Dt = U \cup S$$

$$S = \text{Set of services} = \{\text{Access Records, Take Appointment, Reminders, Predict Diseases}\}$$

2. Functional Decomposition

DIFFERENT FUNCTIONS:

Let

$f(g)$ = function of sign up.

$f(h)$ = function of appointment scheduling.

$f(i)$ = function of appointment conformation.

$f(j)$ = function of accessing medical records.
 $f(k)$ = function of reminders.
 $f(l)$ = function of disease prediction.
 $f(m)$ = function of uploading records.

FUNCTIONAL DEPENDENCY:

$f(g) : Dt \rightarrow U$
 A: $f(i) \rightarrow f(h)$
 B: $f(j) \rightarrow f(m)$
 C: $f(k) \rightarrow f(i) \cup f(m)$
 D: $f(l) \rightarrow Dt$
 E: $f(l) \rightarrow f(k)$
 F: $f(m) \rightarrow f(l)$

Names of the conference/journal where paper is submitted/published/accepted:

1. *"A Survey on Disease Diagnosis Algorithm"*, Aanchal Oswal, Vachana Shetty, Mustafa Badshah, Rohit Pitre, Manali Vashi, International Journal of Advanced Research in Computer Engineering & Technology (IJARCET) Volume - 3, Issue - 11, November 2014
2. *"Digital Medical Care with Iterative and Probabilistic Disease Prediction"*, Aanchal Oswal, Vachana Shetty, Mustafa Badshah, Rohit Pitre, Manali Vashi, International Journal of Advanced Research in Computer Engineering & Technology (IJARCET). (Submitted)

List of Conference/Journal Papers supporting project idea:

1. Nirmala Devi.M, Appavu alias Balamurugan.S, Swathi U.V, An amalgam KNN to predict Diabetes Mellitus, IEEE International Conference on Emerging Trends in Computing, Communication and Nanotechnology (ICECCN), 2013.
2. V. Manikantan & S. Latha, Predicting the Analysis of Heart Disease Symptoms Using Medicinal Data Mining Methods, International Journal on Advanced Computer Theory and Engineering (IJACTE) Volume-2, Issue-2, 2013.
3. Rahul Isola, Rebeck Carvalho, Amiya Kumar Tripathy, KnowledgeDiscovery in Medical Systems Using Differential Diagnosis, LAMSTAR, and k-NN, IEEE Transactions on Information Technology In BiomedicineE, VOL. 16, NO. 6, November 2012.
4. George L. Tsirogiannis, Dimitrios Frossyniotis, Konstantina S. Nikita, and Andreas Stafylopatis, A Meta-classifier Approach for Medical Diagnosis, G.A. Vouros and T. Panayiotopoulos (Eds.): SETN 2004, LNAI 3025, pp. 154163, 2004.
5. M.Akhil jabbar, B.L Deekshatulu, Priti Chandra, Classification of Heart Disease Using K-Nearest Neighbor and Genetic Algorithm, International Conference on Computational Intelligence: Modeling Techniques and Applications(CIMTA), 2013
6. Amit Kushwaha, Vineet Kushwaha, Location Based Services using Android Mobile Operating System, International Journal of Advances in Engineering & Technology, Mar 2011.

7. Sandeep Kumar, Mohammed Abdul Qadeer, Archana Gupta, Location Based Services using Android, IEEE 2009.

Plan of project execution:

Task Name	Start	Finish	Assigned To
App Functionality	Tue 29-07-14	Sat 02-08-14	Rohit
Website Functionality	Tue 29-07-14	Sat 02-08-14	Aanchal
Resources required	Tue 05-08-14	Fri 15-08-14	Vachana, Mustafa
Database Connectivity	Wed 17-12-14	Fri 26-12-14	Rohit, Aanchal
Create Components	Wed 31-12-14	Mon 12-01-15	Rohit, Aanchal
UI Designs and Images	Tue 13-01-15	Thu 15-01-15	Rohit, Aanchal
Color Schemes	Fri 16-01-15	Tue 20-01-15	Aanchal, Vachana
Login/Sign Up	Thu 22-01-15	Mon 02-02-15	Rohit, Aanchal
Home Screen (Android)	Tue 03-02-15	Fri 06-02-15	Rohit
Home Screen (Website)	Tue 03-02-15	Fri 06-02-15	Aanchal
Database	Mon 09-02-15	Fri 20-02-15	Aanchal
Disease Prediction	Mon 23-02-15	Fri 27-02-15	Rohit
Select Appointment Module	Mon 02-03-15	Tue 10-03-15	Rohit
Prescription Module	Wed 11-03-15	Thu 19-03-15	Aanchal
Pre-Test	Fri 20-03-15	Mon 23-03-15	Mustafa
Functionality Test	Tue 24-03-15	Fri 27-03-15	Rohit, Aanchal
Performance	Sat 28-03-15	Wed 01-04-15	Mustafa
Handover	Thu 02-04-15	Fri 03-04-15	Aanchal
Documentation	Sat 04-04-15	Mon 20-04-15	Vachana

Review of submitted paper in last semester:

Paper ID:	IJARCET-9078
Paper Title :	A SURVEY ON DISEASE DIAGNOSIS ALGORITHMS

<u>Evaluation:</u>					
	Poor	Fair	Good	Very Good	Outstanding
Originality	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Innovation	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
technical merit	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
applicability	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Presentation and English	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Match to Journal Topic	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paper Format (IEEE)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
<u>Recommendation to Editors</u>					
	Strongly Reject	Reject	Marginally Accept	Accept	Strong Accept
Recommendation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>