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CHILD VACCINATION APPLICATION

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***Abstract*—**Young children are at increased risk for infectious diseases because their immune systems have not yet built up the necessary defenses to fight serious infections and diseases. As a result, diseases like whooping cough or pneumococcal disease can be very serious and even deadly for infants and young children. Vaccinations start early in life to protect children before they are exposed to these diseases. The proposed system of e Vaccination system provide proper schedule of children vaccine time interval for the parents. Parents can search near by hosptial and make a schedule. Admin will manage the child and vaccination report and approval of appoinment. Hosptial will update the status of vaccination applied for child. The system implemented as android app using Angular JS MVC model.

***Keywords*—**Children, Vaccination, Android App, Angular JS MVC model.

I. RELATED WORK

Vaccination protects children from serious illness and complications of vaccine-preventable diseases which can include amputation of an arm or leg, paralysis of limbs, hearing loss, convulsions, brain damage, and death. Vaccine-preventable diseases, such as measles, mumps, and whooping cough, are still a threat. Vaccination is a process of development of immunity without infection. In this case, weakened pathogens are injected in the body to produce immunity against the particular pathogen. This pathogen stimulates the body to form anti-bodies. In this way, vaccinated person develops immunity against the pathogen. Vaccines contain weakened or inactive parts of a particular organism (antigen) that triggers an immune response within the body. Newer vaccines contain the blueprint for producing antigens rather than the antigen itself. All vaccines contain an active component (the antigen) which generates an immune response, or the blueprint for making the active component. The antigen may be a small part of the disease-causing organism, like a protein or sugar, or it may be the whole organism in a weakened or inactive form.

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II. SYSTEM STUDY

1) Existing System:

In the existing system, Vaccines are provided for infants and children under teenage by various aspects such as by attending school manually and there is a chance that some of the children's and infants may miss the opportunity of getting vaccinated due to some mandatory reasons. Which leads to loss of life or gets affected by various diseases such as polio.

Lack of Draw Backs:

- This is a time delay process to wait for each and every one all over the places.
- Manual Work.

2) Proposed System:

We can change this manual system into e-vaccination system by collecting the info of infants, registered under website so that those who didn't took vaccination can avail one more opportunity to save the life of their children.

Advantages:

- Parents can search and find the hospital and book online.
- By this system a lot of man-hours can be saved and it is efficient too.

III. SYSTEM DEVELOPMENT

A) Module Description:

System Modules:

1) Admin

- All child details
- Date & time of vaccination
- Report of vaccination
  - Child, Vaccination (Date wise report)
- List of vaccine
  - available or unavailable
- Request from parents

- Approve or Reject
- Add Hospital
- Update/Delete Hospital
- List of hospitals
- Booking Details

2) Modules Description

Admin

- All child details
- View all child profile details
- Date of vaccination
- Upcoming Date of vaccination of all child
- Report of vaccination
- Child, Vaccination (Date wise report)
- Admin can export the details in xls format by date , week and month wise report
- List of vaccine
- available or unavailable
- Admin can view the availibilty of the vaccination
- Request from parents
- Approve or Reject
- Once the request for appoinment from parent side, it will be approved from the admin
- Add Hospital
- Admin can add the hosptial details
- Update/Delete Hospital
- Admin can update or delete the hosptial details
- List of hospitals
- Admin can view the hosptial details
- Booking Details
- Admin can view the booking details from parent side for booking vaccination.

3) Hospital

- Register & Login
- Can register and login into the app with hosptial name, address and location details.
- Update Vaccine status
- Hospital will receive the appoinment once its booked from admin side. If vaccination is completed they will update the status to Vaccined or not.

IV. TESTING METHODS

It is the process of exercising software with the intent of finding and ultimately correcting errors. This fundamental philosophy does not change for web applications, because web based system and applications reside on network and inter-operate with many different operating systems, browsers, hardware platforms and communication protocols. Thus searching for errors is significant challenge for web applications.

1) Testing issues:

- Client GUI should be considered.
- Target environment and platform considerations
- Distributed database considerations
- Distributed processing consideration

2) Testing and Methodologies

System testing is the state of implementation, which is aimed at ensuring that the system works accurately and efficiently as expect before live operation, commences. It certifies that the whole set of programs hang together System testing requires a test plan, that consists of several key activities and steps for run program, string, system and user acceptance testing. The implementation of newly design package is important in adopting a successful new system

Testing is important stage in software development. System test is implementation should be a confirmation that all is correct and an opportunity to show the users that the system works as they expected It accounts the largest percentage of technical effort in software development process.

Testing phase is the development phase that validates the code against the functional specifications. Testing is

a vital to the achievement of the system goals. The objective of testing is to discover errors. To fulfill this objective a series of test step such as the unit test, integration test, validation and system test where planned and executed.

3) Unit Testing:

Here each program is tested individually so any error apply unit is debugged. The sample data are given for the unit testing. The unit test results are recorded for further references. During unit testing the functions of the program unit validation and the limitations are tested. Unit testing is testing changes made in a existing or new program this test is carried out during the programming and each module is found to be working satisfactorily. For example in the registration form after entering all the fields we click the submit button. When submit button is clicked ,all the data in form are validated. Only after validation entries will be added to the database.

Unit testing comprises the set of tests performed by an individual prior to integration of the unit into large system. The situation is illustrated in as follows

Coding-> Debugging ->Unit testing -> Integration testing

The four categories of test that a programmer will typically perform on a program unit

- Functional test
- Performance test
- Stress Test
- Structure test

Functional test involve exercising the code with nominal input values for which the expected results are known as well as boundary values and special values.

Performance testing determines the amount of execution time spent in various parts of unit program through put and response time and device utilization by the program.

A variation of stress testing called sensitivity testing in same situations a very small range of data contained in a bound of valid data may cause extreme and even erroneous processing or profound performance degradation. • Structured testing is concerned with a exercising the internal logic of a program and traversing paths.

Functional testing, stress testing performance testing are referred as “black box” testing and structure testing is referred as “white box” testing.

4) Validation Testing:

Software validation is achieved through a serious of testes that demonstrate conformity with requirements. Thus the proposed system under consideration has been tested by validation & found to be working satisfactory.

5) Output Testing:

Asking the user about the format required by them tests the output generated by the system under consideration .It can be done in two ways, One on screen and other on printer format. The output format on the screen is found to be correct as the format designed n system test.

6) System Testing:

In the system testing the whole system is tested for interface between each modules and program units are tested and recorded. This testing is done with sample data . The securities, communication between interfaces are tested System testing is actually a series of different tests whose primary purpose is to fully exercise the computer based system although each test has a different purpose all work to verify that all system elements properly integrated and perform allocate function

It involves two kinds of activities namely

- Integrated testing
- Acceptance testing
- Validation testing
- Integrated testing

Integrated testing is a systematic technique for constructing tests to uncover errors associated with interface. Objective is to take unit tested modules and build a program structure that has been dictated by design .

7) Acceptance testing:

Acceptance testing involves planning an execution of a functional test, performance test and stress test to verify that the implemented system satisfies the requirement. The acceptance testing is the final stage of the user the various possibilities of the data are entered and the results are tested.

8) Validation testing:

Software validation is achieved through a series of test that demonstrates the conformity and requirements. Thus the proposed system under consideration has to be tested by validation and found to be working satisfactorily. For example in customer enters phone number field should contain number otherwise it produces an error message similarly in all the forms the fields are validated

9) Testing results:

All the tests should be traceable to customer requirements the focus of testing will shift progressively from programs Exhaustive testing is not possible To be more effective testing should be which has probability of finding errors

- The following are the attributes of good test
- A good test has a probability of finding a errors
- A good test should be "best of breeds"
- A good test to neither simple nor too complex

V. CONCLUSION

The "Child Vaccination Registration" has been developed to satisfy all proposed requirements. The process is maintained more simple and easy. The system is highly scalable and user friendly. Almost all the system objectives have been met. The system has been tested under all criteria. The system minimizes the problem arising in the existing manual system and it eliminates the human errors to zero level. The design of the database is flexible ensuring that the system can be implemented. It is implemented and gone through all validation. All phases of development were conceived using methodologies. User with little training can get the required report. The software executes successfully by fulfilling the objectives of the project. Further extensions to this system can be made required with minor modifications

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