

Infrastructure Management And Services - 2

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Abstract : This paper discussing the process of software development and techniques that are implied during the development of application. And solve real-time problems during website development. It will also discuss the appropriate software architecture techniques which can be used during the web application development. Then it will go through the website development process, in that it describes how this way of process can make the process more dramatic and exclusive by evolve changes in some distinct part to receive effective results. It will also go through the problem faced by the user, and it possesses to understand the technical terms such as code reusability, deployment, production, requirement gathering and many more.

Index Terms : Agile Development Process, MVC Model, Architectural pattern, Tackling Real-time Problems

1 INTRODUCTION

The website is like an important part to every business at present, the business is an implied technique it to consumes lot of efforts and time for the outcome of the respective business. The business you are in appeals to your profession and professionalism. The rule is to the website is, the website should also look professional and it should show the mirror of the business the customer is in to [1]. Before developing any of the website, it should get the basic information on the website that needs to be made and the customer's needs to be taken into consideration. Based on each website it should select the appropriate model for the development of the website application. Once the process is discussed it will follow a particular software development architecture pattern depending on the requirement have collected from the customer [4]. Most essential thing while developing a website is choosing the emerging programming language which should be taken into knowledge for development while, the framework which can be used to make the website more secure and user-friendly for developing the website.

2 STRUCTURE OF WEB APPLICATIONS

Effective applications possibly separate into logical parts called "phases". For every phase, there are tend to do specific functions [10]. Web applications must be multi-tiered in the process, with the most common structure being the three-phased architecture. In its most common form, the three phases are:

- (i) Responsive interface
- (ii) Application layer and
- (iii) Database layers

The web browser itself a 1st phase that is Responsive Interface. By using somedynamic Web content technologies like HTML5, CSS3, JINJA2. The intermediate phase will deploy the application logic. Lastly, database is the 3rd phase is storage. The impending data of the paper explains and describes the techniques that are accessible to website developers.

2.1 MVC MODEL FOR WEB APPLICATION DEVELOPMENT

Over the few years, website development had enormous modification. The important change that could have occurred in the years, the usage of these patterns for the development of the web application [2]. The Model view-controller (MVC) is a software architectural design for implementing responsive user interfaces on computers.

2.2 HOW DOES MVC PATTERN WORK?

MVC patterns distinguish the given input, processing, and output in a website. This model categories into several parts called the Controller, the View, and the Model.

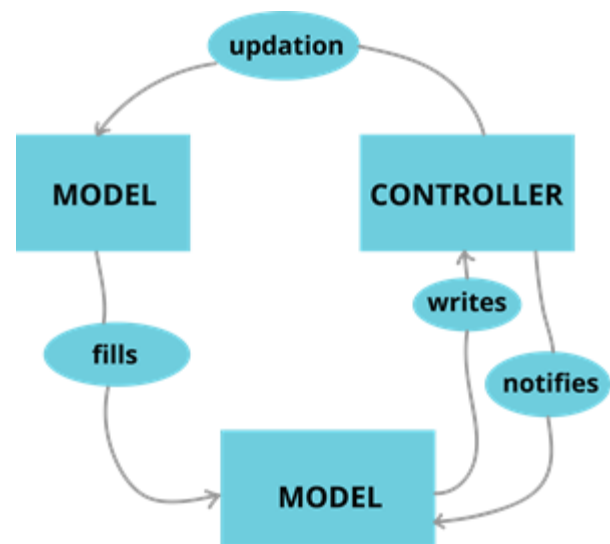


Fig. 1 MVC Model

2.3 EFFECTIVE IN DEVELOPMENT PROCESS

MVC drive as a deterministic and collateral creation of the web application, it exhibits one of the team members will work on distinct part of the project and others, meanwhile can remodel the project for the moment [7]. Even though one can change the product logic of the application in hub that will not influence the development.

2.4 CAPABILITY TO PROVIDE MULTIPLE PERSPECTIVE

This motif gives us with varied perspective; and it is also providing for code rephrase as one perspective can be used for varied times, depending on the UI.

2.5 REINFORCE FOR FRAMEWORK OF JAVASCRIPT

MVC can be incorporation with the different JavaScript framework, which tells all can use PDF document and AJAX very facile in it. It also reinforces this all chronic techniques, which assists the web application to load rapid boot up.

2.6 FACILE TO TRANPOSE THE CODE

Any of the developers can effortlessly manipulate the source code it will not impact on remaining developers who

is developing the project [8]. For any website, UI transform more frequently, so it is foremost for everyone to manipulate the user interface it must be change in specific part only, by only MVC made workable.

2.7 SECURITY

The MVC layout's security as any user can't access the application with the assist of the perspective, that is the "controller" can easily access the application, so no, manipulation is made from the client side to the application.

3. WEB APPLICATION DEVELOPMENT PROCESS

By the conventional development process of the website, it is tending to be used the relevant Software Development Lifecycle (SDLC) [5], the issue with this proceeding was if the intruder tries to manipulate the data, then users possess to revise the whole process, or it should hold for the procedure to consummate. (Over) than that, iterative model is implied, even so the issue with this model is, if a contemporary requirement initiated then users have to hold for whole process to complete development and revise it again [6] [10].

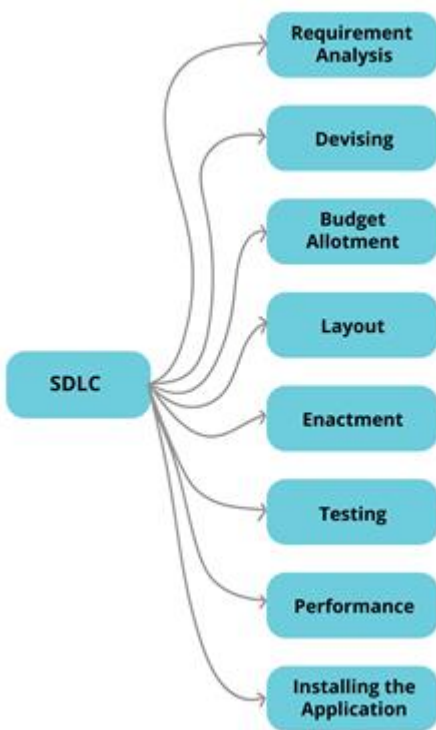


Fig. 2 SDLC Model

To eliminate this issue, the use flowing stages which is describe in attributes beneath:

- Requirement analysis.
- Devising.
- Budget allotment.
- Construction of layout as per requirement.
- Enactment of web application.
- The Testing phases.
- Client side performance testing.
- Installing the web application on the server.

3.1 REQUIREMENT ANALYSIS

In the beginning, all the members of the web application team should collect the information which is need for the website. Every trivia is chosen to accept and is been used for the web development process. In this process, what kind of web application need to be made? What are the peculiarities the client claimed in it are all taken into concern as well as the colour design of the website is also considered in this period?

3.2 DEVISING

It is the most crucial stage of the development process. In this, we determine the list of all the aspects, i.e. how much period and money we would need to develop the project, and chose the period reasonably and appropriately depending on the developing time.

3.3 BUDGET ALLOTMENT

When the forethought is accepted the budget allotted based on the congregated requirement and is been verified by both development team and the client. The budget report must have made of every constraint in account economy, time consumption and salary of the team and it should be immaculate. The preconditions from the client side are also mentioned in the report.

3.4 CONSTRUCTION OF LAYOUT AS PER REQUIREMENT

The User interface is major in all the web application construction it is the precondition to the client gratification, why it so important because the client will only view the user interface, at first sight the design of the application should be executive and it should meet the customer requirements. It is achieved by the development team by the development of application are based on the requirement analysis report. When the layout is developed the colours used and the mood board are sent to client for verification and whether it can be used in the upcoming process.

3.5 ENACTMENT OF WEB APPLICATION

Formerly, the web application depiction has been validated by the development team, development team need to partition the set-up according to the components that can be restate, components. The components have to been included in the major set-up page for elongate the perspective [3]. This function very helpful in reduction of the code and it also limits the time consumption of the development team and compel the final product glance executive and systematize.

3.6 THE TESTING PHASES

The web application need be examined when each of its module is developed. It intercepts the modification if the web application unsatisfactory condition. The testing team meant to be tested by, the report given by the requirement analysis phase. The testing team can use of different testing course of action such as black box testing and white box testing. It is done because the flow of application and to prevent the occurrence of logical errors will identified and discarded from the web application. When this process is

completed the web application is sent to client to perform the final assessment

3.7 CLIENT-SIDE PERFORMANCE TESTING

After web application is tried out by the team members in development process then it will be prepared for installation, previous to this, developers verify that the web application convinces the client expectations for that impetus developers are intend to trail the web application at the client-side performance test by impart them permission to access the user interface and server of the web application. When the client provides acquiescence, development team can install the application.

3.8 INSTALLING THE WEB APPLICATION ON THE SERVER

The foremost part of the development phase is, developers need to realize prior to installing the web application is hosting to users are can use it. On condition the web application is standard with a plenty of unvarying content then it relevant to use host is allotted. Whether the site contains zestful content and the client is requested for it then the use of VPS server can be used. It provides the allotment of the load sharing and cloud providence are also provided it also gives the superior service for the cloud hosting.

3.9 PERPETUATE OF THE WEB APPLICATION

When the web application is installed the entire work of the maintenance team is not over it based on the client view. In this process, the delusion of the web application is verified by the client in every process of the application. Because it should not stop during customer usage. In the requirement analysis phase the perpetuate phase is assigned.

4 PROPOSED SYSTEM

The Infrastructure Management contains various micro systems which are independently run to produce services to the students, faculty and others. The principal Appointment produces the time of waiting and works efficiently for the end users. The food booking system pays a great way for booking food reduce the time consumption and the ground system makes the end users availability for the ground in the avail period these systems produce an efficient in time saving and produce an effective user-friendly environment.

4.1. PRINCIPAL APPOINTMENT BOOKING MODULE

The application makes use of front-end is Python, and the back-end is SQL database. And the proposed system comprises of two users: Principal & admin. The admin can be the HoD, faculty, Technical staff and Students.

- The user will first visit the website and have to enter the user name and password if you already registered. Otherwise, you can register with the help of contact information and college information.
- The contact details have the field of the Name, Sex, Phone number, Display picture, and recovery question.
- The college contains fields like College E-mail, password, confirm passport, Designation, Department, Year and section.

- The recovery question is given for the user to recover the password by entering the answer for the recovery question.
- The contact information has the field of the First name, Last name, Gender, Phone number, Profile picture, and recovery question.
- Once the registration is completed then the login webpage is viewed where the user enters the User name as college Id and password.
- The Principal Appointment Booking system flows through the home page of the project.
- The appointment web page opens where developers need to type the date, subject, and details and hit on the Book button.
- After this successful booking, we will get confirmation email which includes booking Date, booking Time and Appointment time duration
- If the principal rejects an appointment patient will get a rejection email.

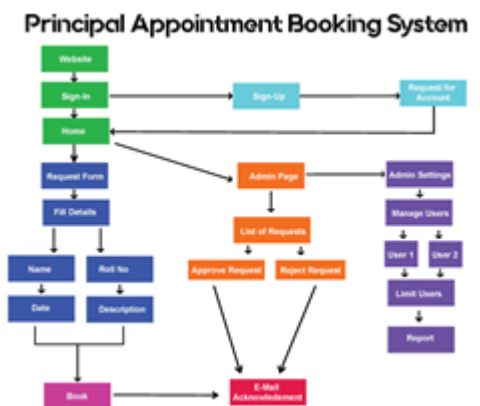


Fig. 3 Principal Appointment Booking Sitemap

4.2 GROUND BOOKING MODULE

The application makes use of front-end is Python, and the back-end is SQL database. And the admin can be the HoD, faculty, Technical staff and Students.

- The user will first visit the website and have to enter the user name and password if you already registered. Otherwise, you can register with the help of contact information and college information.
- The contact information has the field of the First name, Last name, Gender, Phone number, Profile picture, and recovery question.
- The college contains fields like College E-mail, password, confirm passport, Designation, Department, Year and section.
- The recovery question is given for the user to recover the password by entering the answer for the recovery question.
- Once the registration is completed then the login webpage is viewed where the user enters the User name as college Id and password.
- The Ground Booking system flows through the home page of the project. Click on the Ground booking. The web page opens where developers

need to type the date, time, and Ground name and hit on the Book button.

- After this successful booking, users will get confirmation email which includes booking Date, booking Time
- If the time is already booked the appointment gets rejection through Mail.

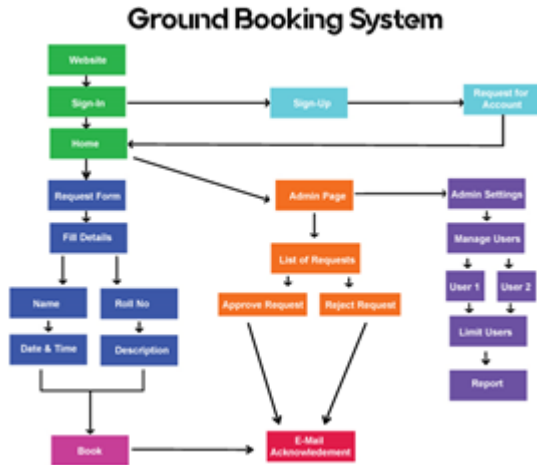


Fig. 4 Ground Booking Sitemap

4.3 FOOD BOOKING MODULE

The application makes use of front-end is Python, and the back-end is SQL database. And the admin can be the HoD, faculty, Technical staff and Students.

- The user will first visit the website and have to enter the user name and password if you already registered. Otherwise, you can register with the help of contact information and college information.
- The contact information has the field of the First name, Last name, Gender, Phone number, Profile picture, and recovery question.
- The college contains fields like College E-mail, password, confirm passport, Designation, Department, Year and section.
- The food Booking system flows through the home page of the project.
- The recovery question is given for the user to recover the password by entering the answer for the recovery question.
- Once the registration is completed then the login webpage is viewed where the user enters the User name as college Id and password.
- The food booking contains various option for Vegetarian and Non-Vegetarian and the food menu changes based on the timing.
- It has the option for a category to filter, cart option, Wallet Balance.
- We click on the food and click add, Go to the cart. Click on the Make order. It displays as the food book.
- We receive the mail for the order the food.
- If the food count is zero or the item timing elapsed the food order will be cancelled.

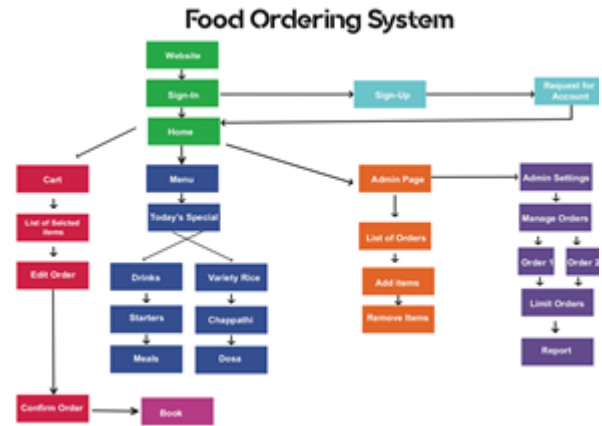


Fig. 5 Food Ordering Sitemap

5 CONCLUSION

That's all are the topics talked about, the process of how to create the web application further productive, then the paper illustrates the software development process, which assists us to gear varies issues in the development process. The paper also discussed divergent architectural designs which may be cast-off for software development process. By this paper the issues, and problems are illustrated and solution for the issue are also retrieved and it produces a complicated description of MVC design, and it describes the reasons for execution of MVC design. Then the paper pass through the issues arises during development of the web application, and it elaborates the compound in the constructive process. And describes about how we implied it in our project.

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