1. Introduction about the project

The project titled as “CANTEEN FOOD ORDERING & MANAGEMENT SYSTEM “is a web based application. Usually People have to go to canteen and order the foods and they have to wait in queue for a long time to get the orders. But with the help of this you just have to follow a very simple process to order your stuffs. And you need not to wait in the long queue.

Modules

- Students of Institute
- Canteen Person

Functional Requirements:

Students of Institute:

- Create update and delete accountant details after login
- Can search and order food items
- Can search all past orders and can update and delete them

Canteen Person:

- Can search the orders of all the students and payment details as per requirement after login
- Can update the student record
- Can save new all the students order informations.

Non –Functional Requirements:

- Secure access of confidential data
- 24X7 availability
- Browse testing and support for IE,NN,Mozila and Firefox

2. Introduction:

The main aim of this project Canteen management system is to provide fast services to their college students, Staffs etc. Usually People have to go to canteen and order the foods and they have to wait in queue for a long time to get the orders. But with the help of this you just have to follow a very simple process to order your stuffs. And you need not to wait in the long queue.

This website will provide the list of different menu list with different categories. User can select any item from canteen and can order for it by using debit card payment or wallet Payment. Wallet Recharging available with debit card details or admin can add amount in user's wallet.

Users have to register with valid details and OTP which will get sent to their mobile number to login with canteen. Users also get recommendation for food items, Trending food items.

Canteen Management system manages the all details of food items which contains name, description, image, price etc. Admin can view the confirm order and update the status of the order accordingly.

Customer can check their balance, order history and able to delete the order according to order status.

Features

The system comprises of 2 major modules and their sub modules as follows:

1. **Canteen**
    a. **Login:** Canteen person need to login using valid login credentials in order to access the web application.
    b. **Add / Manage Items:** Can add new food items with details such as name, image, cost, description, etc. and also can manage added details.
    c. **Add Wallet Balance:** Canteen person can add balance in student's wallet.
    d. **View / Update Orders:** Can view all the canteen orders received from the student.

2. **Student**
    a. **Register:** Student need to register first with basic registration details and need to create a valid login id and password.
    b. **Login:** Student need to login using their valid login credentials in order to access the web application.
    c. **View Items:** All the food items will be displayed to the student at once with description and cost.
    d. **View Recommendation:** Food recommendation list will also be displayed based on their previous orders.

e. **Add to Cart:** Single or multiple food item can be added to cart by selecting quantity.
f. **Order and Pay:** Order can be placed of selected food items by using a dummy card.
g. **Refill Wallet:** Student can refill their own wallet anytime.
h. **Order History: All the past and recent order will be displayed.**

2.1 Existing System:

In the existing system only we have to go to canteen and order the foods and we have to wait in queue for a long time to get the orders. This is the waste of time which is not good for students.

2.2 Drawbacks of Existing System

- Time consuming.
- Consumes large volume of pare work.
- Needs manual calculations.
- Don’t have exact Food Count record of each student.

- Due to manual system there are chances of loss of some money.

To avoid all these limitations and make the working more accurately the system needs to be computerized.

2.3 Proposed System:

The main aim of this project Canteen management system is to provide fast services to their college students, Staffs etc. Usually People have to go to canteen and order the foods and they have to wait in queue for a long time to get the orders. But with the help of this you just have to follow a very simple process to order your stuffs. And you need not to wait in the long queue. This website will provide the list of different menu list with different categories. User can select any item from canteen and can order for it by using debit card payment or wallet Payment. Wallet Recharging available with debit card details or admin can add amount in user's wallet.

2.4 Expected Advantages of Proposed System:

The system is very simple in design and to implement. The system requires very low system resources and the system will work in almost all configurations. It has got following features

- Reduces wastage of food items.
- Easy for calculating the exact bill of canteen vendor.
- College authority can see the canteen's income and total orders.
- Ensure data accuracy's.
- Minimize manual data entry.
- Greater efficiency.

- Better service.
- User friendliness and interactive.
- Minimum time required.

2.4.1 FEASIBILITY STUDY :

Feasibility study is made to see if the project on completion will serve the purpose of the organization for the amount of work, effort and the time that spend on it. Feasibility study lets the developer foresee the future of the project and the usefulness. A feasibility study of a system proposal is according to its workability, which is the impact on the organization, ability to meet their user needs and effective use of resources. Thus when a new application is proposed it normally goes through a feasibility study before it is approved for development.

The document provide the feasibility of the project that is being designed and lists various areas that were considered very carefully during the feasibility study of this project such as Technical, Economic and Operational feasibilities. The following are its features:

2.4.2 TECHNICAL FEASIBILITY:

The system must be evaluated from the technical point of view first. The assessment of this feasibility must be based on an outline design of the system requirement in the terms of input, output, programs and procedures. Having identified an outline system, the investigation must go on to suggest the type of equipment, required method developing the system, of running the system once it has been designed. Technical issues raised during the investigation are:

- Does the existing technology sufficient for the suggested one?
- Can the system expand if developed?

The project should be developed such that the necessary functions and performance are achieved within the constraints. The project is developed within latest technology. Through the technology may become obsolete after some period of time, due to the fact that never version of same software supports older versions, the system may still be used. So there are minimal constraints involved with this project. The system has been developed using Java the project is technically feasible for development.

2.4.3 ECONOMIC FEASIBILITY

The developing system must be justified by cost and benefit. Criteria to ensure that effort is concentrated on project, which will give best, return at the earliest. One of the factors, which affect the development of a new system, is the cost it would require.

The following are some of the important financial questions asked during preliminary investigation:

- The costs conduct a full system investigation.
- The cost of the hardware and software.
- The benefits in the form of reduced costs or fewer costly errors.

Since the system is developed as part of project work, there is no manual cost to spend for the proposed system. Also all the resources are already available, it give an indication of the system is economically possible for development.

2.4.4 BEHAVIORAL FEASIBILITY

This includes the following questions:

- Is there sufficient support for the users?
- Will the proposed system cause harm?

The project would be beneficial because it satisfies the objectives when developed and installed. All behavioral aspects are considered carefully and conclude that the project is behaviorally feasible.

3.1 Software and Hardware Specifications

3.1.1 Hardware Specification

Processor	:	Pentium III/AMD Athlone XP
RAM	:	128 MB
Hard disk	:	20 GB
FDD	:	1.44MB
Monitor	:	14 inch
Mouse	:	3 Button scroll
CD Drive	:	52 X

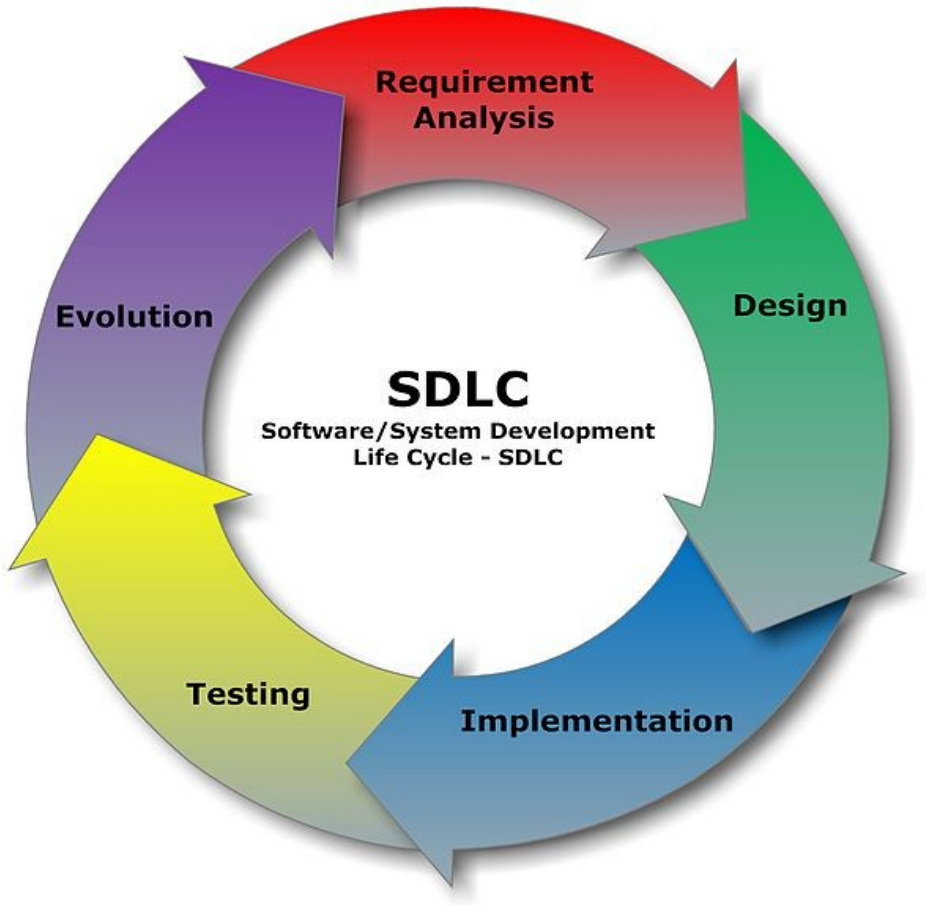
Keyboard : 108 keys

3.1.2 Software Specification

Operating System	:	Windows 2000/xp /7
Languages	:	javascript (React JS)
Front End	:	HTML, CSS, JavaScript, React JS
Platform	:	React JS
Web Servers	:	Google Firebase
Backend	:	Google Firebase Realtime Database
Browser Program	:	Internet explorer/Google Chrome

4.1 Software development life-cycle(SDLC) :

The systems development life cycle (SDLC), or software development process in systems engineering, information systems and software engineering, is a process of creating or altering information systems, and the models and methodologies that people use to develop these systems. In software engineering, the SDLC concept underpins many kinds of software development methodologies. These methodologies form the framework for planning and controlling the creation of an information system: the software development process.



A Systems Development Life Cycle (SDLC) adheres to important phases that are essential for developers, such as planning, analysis, design, and implementation, and are explained in the section below.It include evaluation of present system, information gathering, feasibility study and request approval. A number of system development life cycle (SDLC) models have been created: waterfall, fountain, spiral, build and fix, rapid prototyping, incremental, and synchronize and stabilize. The oldest of these, and the best known, is the waterfall model: a sequence of stages in which the output of each stage becomes the input for the next. These stages can be characterized and divided up in different ways, including the following:

- **Systems analysis, requirements definition**: Defines project goals into defined functions and operation of the intended application. Analyzes end-user information needs.
- **Systems design**: Describes desired features and operations in detail, including screen layouts, business rules, process diagrams, pseudocode and other documentation.
- **Development**: The real code is written here.
- **Integration and testing**: Brings all the pieces together into a special testing environment, then checks for errors, bugs and interoperability.
- **Acceptance, installation, deployment**: The final stage of initial development, where the software is put into production and runs actual business.
- **Maintenance**: What happens during the rest of the software's life: changes, correction, additions, moves to a different computing platform and more. This is often the longest of the stages.

5. DESIGN:

Design is the first step into the development phase for any engineered product or system. Design is a creative process. A good design is the key to effective system. The term “design” is defined as “the process of applying various techniques and principles for the purpose of defining a process or a system in sufficient detail to permit its physical realization”. It may be defined as a process of applying various techniques and principles for the purpose of defining a device, a process or a system in sufficient detail to permit its physical realization. Software design sits at the technical kernel of the software engineering process and is applied regardless of the development paradigm that is used. The system design develops the architectural detail required to build a system or product. As in the case of any

systematic approach, this software too has undergone the best possible design phase fine tuning all efficiency, performance and accuracy levels. The design phase is a transition from a user oriented document to a document to the programmers or database personnel. System design goes through two phases of development: Logical and Physical Design.

5.1 LOGICAL DESIGN:

The logical flow of a system and define the boundaries of a system. It includes the following steps:

- Reviews the current physical system – its data flows, file content, volumes , Frequencies etc.
- Prepares output specifications – that is, determines the format, content and Frequency of reports.
- Prepares input specifications – format, content and most of the input functions.
- Prepares edit, security and control specifications.
- Specifies the implementation plan.
- Prepares a logical design walk through of the information flow, output, input, Controls and implementation plan.
- Reviews benefits, costs, target dates and system constraints.

5.2 PHYSICAL DESIGN:

Physical system produces the working systems by define the design specifications that tell the programmers exactly what the candidate system must do. It includes the following steps.

- Design the physical system.
- Specify input and output media.
- Design the database and specify backup procedures.
- Design physical information flow through the system and a physical design
- Plan system implementation.
- Prepare a conversion schedule and target date.

- Determine training procedures, courses and timetable.
- Devise a test and implementation plan and specify any new hardware/software.
- Update benefits , costs , conversion date and system constraints

Design/Specification activities:

- Concept formulation.
- Problem understanding.
- High level requirements proposals.
- Feasibility study.
- Requirements engineering.
- Architectural design.

5.3 MODULE DESIGN

1. Canteen

i. **Login:** Canteen person need to login using valid login credentials in order to access the web application.

j. **Add / Manage Items:** Can add new food items with details such as name, image, cost, description, etc. and also can manage added details.

k. **Add Wallet Balance:** Canteen person can add balance in student's wallet.

l. **View / Update Orders:** Can view all the canteen orders received from the student.

2. Student

m. **Register:** Student need to register first with basic registration details and need to create a valid login id and password.

n. **Login:** Student need to login using their valid login credentials in order to access the web application.

o. **View Items:** All the food items will be displayed to the student at once with description and cost.

p. **View Recommendation:** Food recommendation list will also be displayed based on their previous orders.

q. **Add to Cart:** Single or multiple food item can be added to cart by selecting quantity.

r. **Order and Pay:** Order can be placed of selected food items by using a dummy card.

s. **Refill Wallet:** Student can refill their own wallet anytime.

t. **Order History: All the past and recent order will be displayed.**

ADVANTAGES OF PROJECT

- Completely automated online ordering of food in a canteen.
- Order can be placed using personal android phones.
- Food ordering pages that look and feel exactly the same as the existing restaurant website.
- Food ordering pages hosted on secure and special server so no risk of customers getting redirected to servers where competitors' websites are listed.
- Developed using the latest website programming protocols for minimum server loads and ultra-fast loading and processing.
- Simple user-interface Admin Panel for creation and configuration of menu groups, menu items, etc.
- Built-in facility to set modifiers on different menu items

- Facility to create modifier groups, individual modifier items and assign modifier items into different groups
- Single and individual Admin Panel and login for each Canteen
- Detailed summary of orders placed with option to search orders, update order status, print orders, etc.
- Various reports to view total sales, details of registered members with facility to print report.

Disadvantages

Requires an active internet connection.

Application: This system can also be used in Restaurants, Cafeteria, Etc.

5.4 INPUT DESIGN:

The input design is the link between the information system and the user. It comprises the developing specification and procedures for data preparation and those steps are necessary to put transaction data in to a usable form for processing can be achieved by inspecting the computer to read data from a written or printed document or it can occur by having people keying the data directly into the system. The design of input focuses on controlling the amount of input required, controlling the errors, avoiding delay, avoiding extra steps and keeping the process simple. The input is designed in such a way so that it provides security and ease of use with retaining the privacy. Input Design considered the following things:

- What data should be given as input?
- How the data should be arranged or coded?
- The dialog to guide the operating personnel in providing input.
- Methods for preparing input validations and steps to follow when error occur.

OBJECTIVES:

Input Design is the process of converting a user-oriented description of the input into a computer-based system. This design is important to avoid errors in the data input process and show the correct direction to the management for getting correct information from the computerized system.

- It is achieved by creating user-friendly screens for the data entry to handle large volume of data. The goal of designing input is to make data entry easier and to be free from errors. The data entry screen is designed in such a way that all the data manipulates can be performed. It also provides record viewing facilities.
- When the data is entered it will check for its validity. Data can be entered with the help of screens. Appropriate messages are provided as when needed so that the user will not be in maize of instant. Thus the objective of input design is to create an input layout that is easy to follow

5.5 OUTPUT DESIGN :

A quality output is one, which meets the requirements of the end user and presents the information clearly. In any system results of processing are communicated to the users and to other system through outputs. In output design it is determined how the information is to be displaced for immediate need and also the hard copy output. It is the most important and direct source information to the user. Efficient and intelligent output design improves the system's relationship to help user decision-making.

- Designing computer output should proceed in an organized, well thought out manner; the right output must be developed while ensuring that each output element is designed so that people will find the system can use easily and effectively. When analysis design computer output, they should Identify the specific output that is needed to meet the requirements.
- Select methods for presenting information.
- Create document, report, or other formats that contain information produced by the system.

The output form of an information system should accomplish one or more of the following objectives.

- Convey information about past activities, current status or projections of the Future.
- Signal important events, opportunities, problems, or warnings.
- Trigger an action.
- Confirm an action.

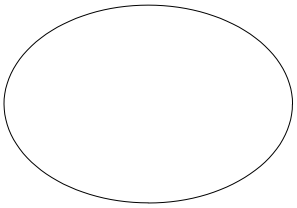
5.6 Data Flow Diagram:

A **data flow diagram** (**DFD**) is a graphical representation of the "flow" of data through an information system, modeling its *process* aspects. Often they are a preliminary step used to create an overview of the system which can later be elaborated. DFDs can also be used for the visualization of data processing (structured design).

A DFD shows what kinds of information will be input to and output from the system, where the data will come from and go to, and where the data will be stored. It does not show information about the timing of processes, or information about whether processes will operate in sequence or in parallel (which is shown on a flowchart).the basic notation used to create a DFD's are as follows:

1. Dataflow: data moves in a specific from an origin to a destination.

2. Process: **P**eople ,procedures or device that use or produce data. The physical components not identified.

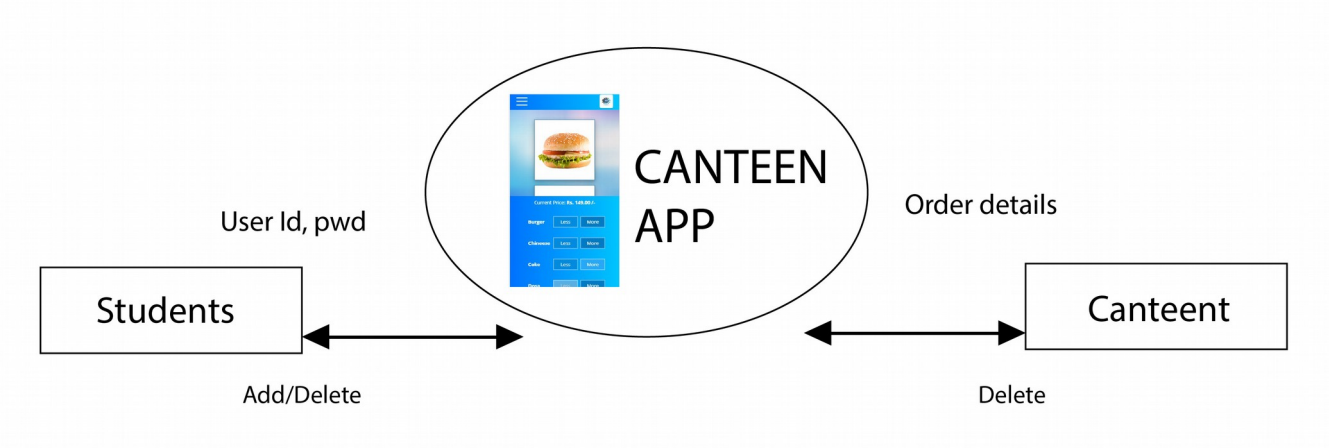


3. Source: external sorce or destination of data, which may be people programs, organizations or other entities.

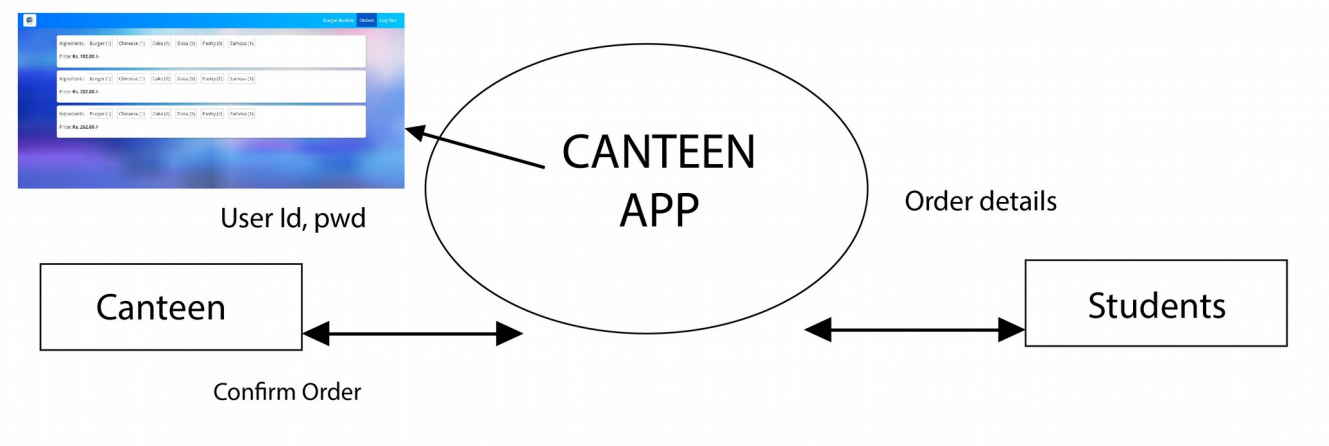
4 .Data source: here data are store and referenced by a process in the system.

0-LEVEL DFD

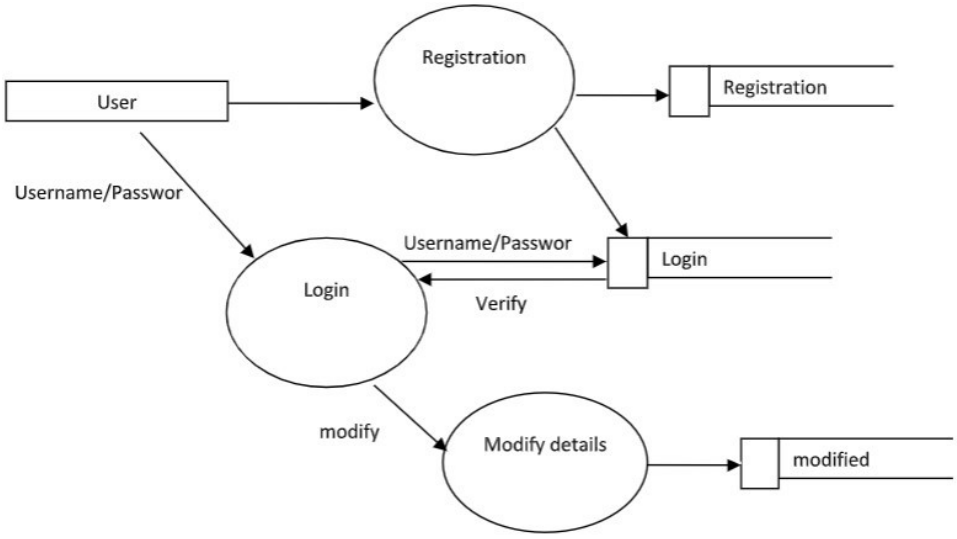
For The Students:



For the Canteen :



Level 1 DFD- Students :



6. DATABASE DESIGN:

A database is an organized mechanism that has the capability of storing information through which a user can retrieve stored information in an effective and efficient manner. The data is the purpose of any database and must be protected.

The database design is a two level process. In the first step, user requirements are gathered together and a database is designed which will meet these requirements as clearly as possible. This step is called Information Level Design and it is taken independent of any individual DBMS.

In the second step, this Information level design is transferred into a design for the specific DBMS that will be used to implement the system in question. This step is called Physical Level Design, concerned with the characteristics of the specific DBMS that will be used. A database design runs parallel with the system design. The organization of the data in the database is aimed to achieve the following two major objectives.

- Data Integrity
- Data independence

Normalization is the process of decomposing the attributes in an application, which results in a set of tables with very simple structure. The purpose of normalization is to make tables as simple as possible. Normalization is carried out in this system for the following reasons.

- To structure the data so that there is no repetition of data , this helps in saving.
- To permit simple retrieval of data in response to query and report request.
- To simplify the maintenance of the data through updates, insertions, Deletions.
- To reduce the need to restructure or reorganize data which new application Requirements arise.

6.1.1 Google Firebase Real Time Database (No-SQL Database):

A relational model represents the database as a collection of relations. Each relation resembles a table of values or file of records. In formal relational model terminology, a row

Store and sync data with our NoSQL cloud database. Data is synced across all clients in realtime, and remains available when your app goes offline.

The Firebase Realtime Database is a cloud-hosted database. Data is stored as JSON and synchronized in realtime to every connected client. When you build cross-platform apps with our iOS, Android, and JavaScript SDKs, all of your clients share one Realtime Database instance and automatically receive updates with the newest data. Instead of typical HTTP requests, the Firebase Realtime Database uses data synchronization—every time data changes, any connected device receives that update within milliseconds. Provide collaborative and immersive experiences without thinking about networking code. Firebase apps remain responsive even when offline because the Firebase Realtime Database SDK persists your data to disk. Once connectivity is reestablished, the client device receives any changes it missed, synchronizing it with the current server state. The Firebase Realtime Database can be accessed directly from a mobile device or web browser; there's no need for an application server. Security and data validation are available through the Firebase Realtime Database Security Rules, expression-based rules that are executed when data is read or written. With Firebase Realtime Database on the Blaze pricing plan, you can support your app's data needs at scale by splitting your data across multiple database instances in the same Firebase project. Streamline authentication with Firebase Authentication on your project and authenticate users across your database instances. Control access to the data in each database with custom Firebase Realtime Database Rules for each database instance.

The Firebase Realtime Database lets you build rich, collaborative applications by allowing secure access to the database directly from client-side code. Data is persisted locally, and even while offline, realtime events continue to fire, giving the end user a responsive experience. When the device regains connection, the Realtime Database synchronizes the local data changes with the remote updates that occurred while the client was offline, merging any conflicts automatically.

The Realtime Database provides a flexible, expression-based rules language, called Firebase Realtime Database Security Rules, to define how your data should be structured and when data can be read from or written to. When integrated with Firebase Authentication, developers can define who has access to what data, and how they can access it.

The Realtime Database is a NoSQL database and as such has different optimizations and functionality compared to a relational database. The Realtime Database API is designed to only allow operations that can be executed quickly. This enables you to build a great realtime experience that can serve millions of users without compromising on responsiveness. Because of this, it is important to think about how users need to access your data and then structure it accordingly.

RELATIONS, DOMAINS & ATTRIBUTES:

A table is a relation. The rows in a table are called tuples. A tuple is an ordered set of n elements. Columns are referred to as attributes. Relationships have been set between every table in the database. This ensures both Referential and Entity Relationship Integrity. A domain D is a set of atomic values. A common method of specifying a domain is to specify a data type from which the data values forming the domain are drawn. It is also useful to specify a name for the domain to help in interpreting its values. Every value in a relation is atomic, that is not decomposable.

RELATIONSHIPS:

- Table relationships are established using Key. The two main keys of prime importance are Primary Key & Foreign Key. Entity Integrity and Referential Integrity Relationships can be established with these keys.
- Entity Integrity enforces that no Primary Key can have null values.
- Referential Integrity enforces that no Primary Key can have null values.
- Referential Integrity for each distinct Foreign Key value, there must exist a matching Primary Key value in the same domain. Other key are Super Key and Candidate Keys.
- Relationships have been set between every table in the database. This ensures both Referential and Entity Relationship Integrity.

NORMALIZATION:

As the name implies, it denoted putting things in the normal form. The application developer via normalization tries to achieve a sensible organization of data into proper tables and columns and where names can be easily correlated to the data by the user. Normalization eliminates repeating groups at data and thereby avoids data redundancy which proves to be a great burden on the computer resources. These includes:

- ✓ Normalize the data.
- ✓ Choose proper names for the tables and columns.

- ✓ Choose the proper name for the data.

First Normal Form:

The First Normal Form states that the domain of an attribute must include only atomic values and that the value of any attribute in a tuple must be a single value from the domain of that attribute. In other words 1NF disallows “relations within relations” or “relations as attribute values within tuples”. The only attribute values permitted by 1NF are single atomic or indivisible values.

The first step is to put the data into First Normal Form. This can be donor by moving data into separate tables where the data is of similar type in each table. Each table is given a Primary Key or Foreign Key as per requirement of the project. In this we form new relations for each nonatomic attribute or nested relation. This eliminated repeating groups of data.

A relation is said to be in first normal form if only if it satisfies the constraints that contain the primary key only.

Second Normal Form:

According to Second Normal Form, for relations where primary key contains multiple attributes, no nonkey attribute should be functionally dependent on a part of the primary key.

In this we decompose and setup a new relation for each partial key with its dependent attributes. Make sure to keep a relation with the original primary key and any attributes that are fully functionally dependent on it. This step helps in taking out data that is only dependant on apart of the key.

A relation is said to be in second normal form if and only if it satisfies all the first normal form conditions for the primary key and every non-primary key attributes of the relation is fully dependent on its primary key alone.

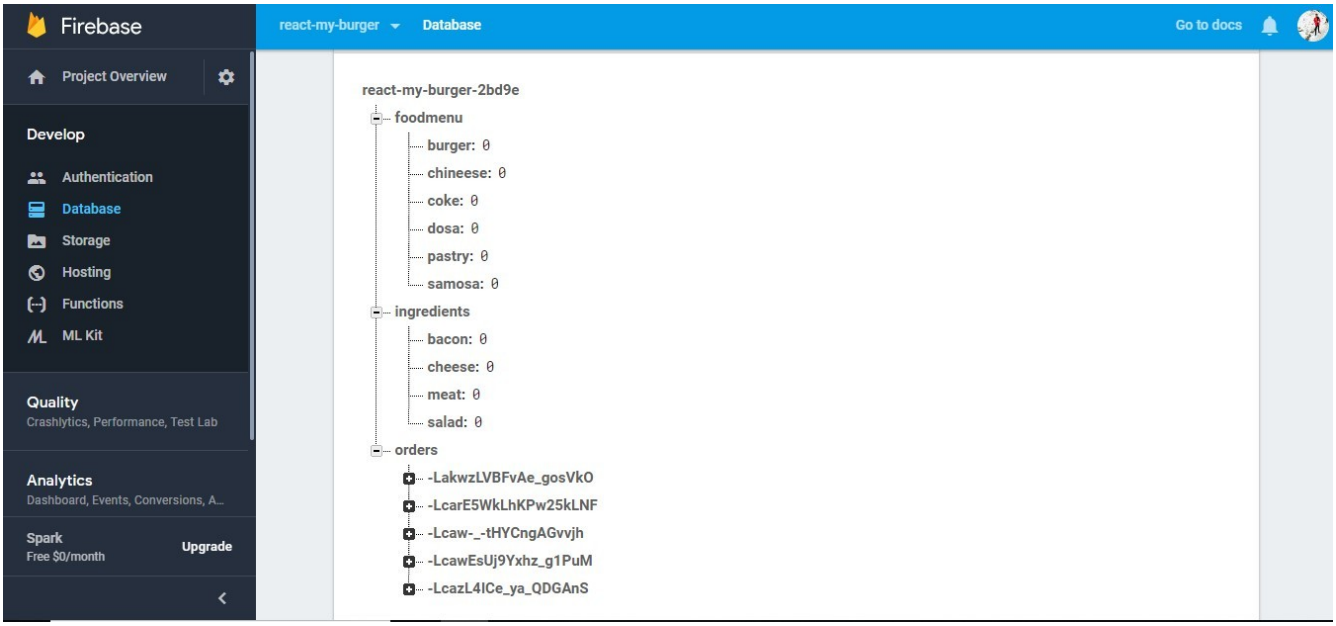
Third Normal Form:

According to Third Normal Form, Relation should not have a non key attribute functionally determined by another non key attribute or by a set of non key attributes. That is, there should be no transitive dependency on the primary key.

In this we decompose and set up relation that includes the non key attributes that functionally determines other non key attributes. This step is taken to get rid of anything that does not depend entirely on the Primary Key.

A relation is said to be in third normal form if only if it is in second normal form and more over the non key attributes of the relation should not be depend on other non key attribute.

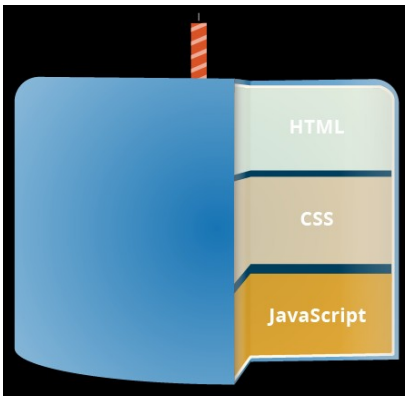
6.2 TABLES STRUCTURE



7. Software Environments

JavaScript

JavaScript is a scripting or programming language that allows you to implement complex things on web pages — every time a web page does more than just sit there and display static information for you to look at — displaying timely content updates, interactive maps, animated 2D/3D graphics, scrolling video jukeboxes, etc. — you can bet that JavaScript is probably involved. It is the third layer of the layer cake of standard web technologies, two of which (HTML and CSS) we have covered in much more detail in other parts of the Learning Area.



- is the markup language that we use to structure and give meaning to our web content, for

example defining paragraphs, headings, and data tables, or embedding images and videos in the page.

- is a language of style rules that we use to apply styling to our HTML content, for example setting background colors and fonts, and laying out our content in multiple columns.
- is a scripting language that enables you to create dynamically updating content, control multimedia, animate images, and pretty much everything else. (Okay, not everything, but it is amazing what you can achieve with a few lines of JavaScript code.)

The three layers build on top of one another nicely. Let's take a simple text label as an example. We can mark it up using HTML to give it structure and purpose

JavaScript is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. It is an interpreted programming language with object-oriented capabilities.

JavaScript was first known as LiveScript, but Netscape changed its name to JavaScript, possibly because of the excitement being generated by Java. JavaScript made its first appearance in Netscape 2.0 in 1995 with the name LiveScript. The general-purpose core of the language has been embedded in Netscape, Internet Explorer, and other web browsers.

The ECMA-262 Specification defined a standard version of the core JavaScript language.

- JavaScript is a lightweight, interpreted programming language.
- Designed for creating network-centric applications.
- Complementary to and integrated with Java.
- Complementary to and integrated with HTML.
- Open and cross-platform

Advantages of JavaScript

The merits of using JavaScript are −

- Less server interaction − You can validate user input before sending the page off to the server. This saves server traffic, which means less load on your server.
- Immediate feedback to the visitors − They don't have to wait for a page reload to see if they have forgotten to enter something.
- Increased interactivity − You can create interfaces that react when the user hovers over them with a mouse or activates them via the keyboard.

- Richer interfaces − You can use JavaScript to include such items as drag-and-drop components and sliders to give a Rich Interface to your site visitors.

Limitations of JavaScript

We cannot treat JavaScript as a full-fledged programming language. It lacks the following important features −

- Client-side JavaScript does not allow the reading or writing of files. This has been kept for security reason.
- JavaScript cannot be used for networking applications because there is no such support available.
- JavaScript doesn't have any multi-threading or multiprocessor capabilities.

Once again, JavaScript is a lightweight, interpreted programming language that allows you to build interactivity into otherwise static HTML pages.

JavaScript Development Tools

One of major strengths of JavaScript is that it does not require expensive development tools. You can start with a simple text editor such as Notepad. Since it is an interpreted language inside the context of a web browser, you don't even need to buy a compiler.

To make our life simpler, various vendors have come up with very nice JavaScript editing tools. Some of them are listed here −

- Microsoft FrontPage − Microsoft has developed a popular HTML editor called FrontPage. FrontPage also provides web developers with a number of JavaScript tools to assist in the creation of interactive websites.
- Macromedia Dreamweaver MX − Macromedia Dreamweaver MX is a very popular HTML and JavaScript editor in the professional web development crowd. It provides several handy prebuilt JavaScript components, integrates well with databases, and conforms to new standards such as XHTML and XML.
- Macromedia HomeSite 5 − HomeSite 5 is a well-liked HTML and JavaScript editor from Macromedia that can be used to manage personal websites effectively.

Where is JavaScript Today ?

The ECMAScript Edition 5 standard will be the first update to be released in over four years. JavaScript 2.0 conforms to Edition 5 of the ECMAScript standard, and the difference between the two is extremely minor.

The specification for JavaScript 2.0 can be found on the following site: http://www.ecmascript.org/

Today, Netscape's JavaScript and Microsoft's JScript conform to the ECMAScript standard, although both the languages still support the features that are not a part of the standard.

React JS (JS Framework)

ReactJS basically is an open-source JavaScript library which is used for building user interfaces specifically for single page applications. It’s used for handling view layer for web and mobile apps. React also allows us to create reusable UI components. React was first created by Jordan Walke, a software engineer working for Facebook. React first deployed on Facebook’s newsfeed in 2011 and on Instagram.com in 2012.

React allows developers to create large web applications which can change data, without reloading the page. The main purpose of React is to be fast, scalable, and simple. It works only on user interfaces in application. This corresponds to view in the MVC template. It can be used with a combination of other JavaScript libraries or frameworks, such as Angular JS in MVC.

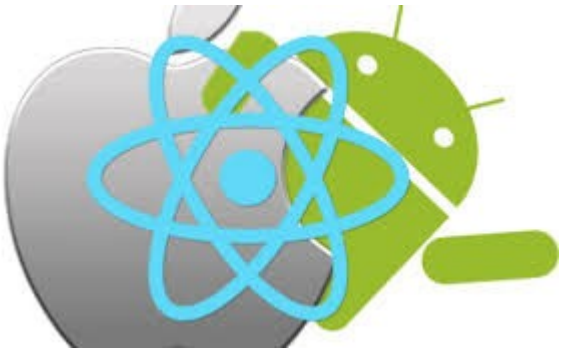
What are the ReactJS Features?

Let us take a closer look at some important features of React.

•JSX
In React, instead of using regular JavaScript for templating, it uses JSX. JSX is simple JavaScript which allows HTML quoting and uses these HTML tag syntax to render subcomponents. HTML syntax is processed into JavaScript calls of React Framework. We can also write in pure old JavaScript.

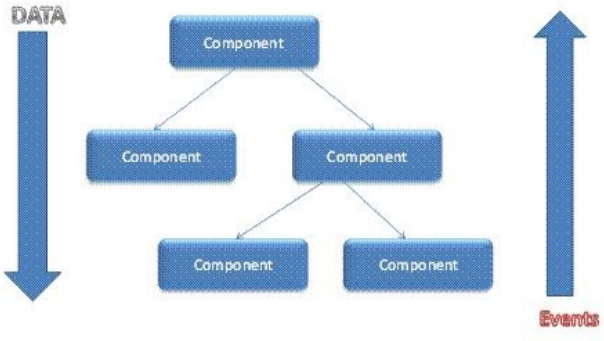
•React Native

React has native libraries which were announced by Facebook in 2015, which provides the react architecture to native applications like IOS, Android and UPD.



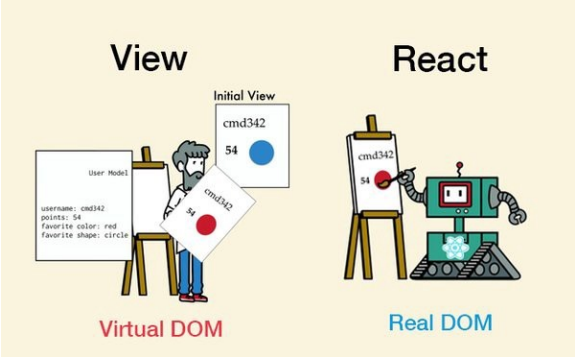
•Single-Way data flow

In React, a set of immutable values are passed to the components renderer as properties in its HTML tags. Component cannot directly modify any properties but can pass a call back function with help of which we can do modifications. This complete process is known as “properties flow down; actions flow up”.



•Virtual Document Object Model

React creates an in-memory data structure cache which computes the changes made and then updates the browser. This allows a special feature which enableprogrammer to code as if whole page is render on each change where as react library only render components which actually change.



(Source-https://goo.gl/L7NiIT)

Why React Js?

Now, the main question arises in front of us is why one should use ReactJS. There are so many open-source platforms for making the front-end web application development easier, like Angular. Let us take a quick look on the benefits of React over other competitive technologies or frameworks. With the front-end world changing on a daily basis, it's hard to devote time to learning a new framework – especially when that framework could ultimately become a dead end. So, if you're looking for the next best thing but you're feeling a little bit lost in the framework jungle, I suggest checking out React.

•Simplicity

ReactJS is just simpler to grasp right away. The component-based approach, well-defined lifecycle, and use of just plain JavaScript make React very simple to learn, build a professional web (and mobile applications), and support it. React uses a special syntax called JSX which allows you to mix HTML with JavaScript. This is not a requirement; Developer can still write in plain JavaScript but JSX is much easier to use.

•Easy to learn

Anyone with a basic previous knowledge in programming can easily understand React while Angular and Ember are referred to as 'Domain specific Language', implying that it is difficult to learn them. For react you just need basic knowledge of CSS and HTML.

•Native Approach

React can be used to create mobile applications (React Native). And React is a diehard fan of reusability, meaning extensive code reusability is supported. So at the same time we can make IOS, Android and Web application.

•Data Binding

React uses one-way data binding and an application architecture called Flux controls the flow of data to components through one control point – the dispatcher. It's easier to debug self-contained components of large ReactJS apps.

•Performance

React does not offer any concept of a built-in container for dependency. You can use Browserify, Require JS, EcmaScript 6 modules which we can use via Babel, ReactJS-di to inject dependencies automatically.

•Testability

ReactJS applications are super easy to test. React views can be treated as functions of the state,

so we can manipulate with state we pass to the ReactJS view and take a look at the output and triggered actions, events, functions, etc.

Hope you have enjoyed this article. In the next article, we will disuss the differences between React JS and Angular, and will analyze which one is better and why. So, stay tuned for the next article.

FEATURES OF O.S :

This project work is done on the windows 2000 professional, which is the operating system. An operating system is a set of software tools designed to make it easy for people or programmers to make optimum use of the computer. People who use computers have different levels of needs and interest. These peoples can be separated can be two groups, users and programmers. The user wants a convenient set of commands to manage files of

data or programs, copy and run application package while a programmer used as a set of tools that can be held together and debug programs.

No matter where you are working, your computer will be easier to use and manage, because Microsoft Windows 2000 Professional is more compatible and more powerful than any workstation you've used before. The main features of Windows 2000 Professional operating system are

- Easier to use.
- Easier to manage
- More compatible
- More powerful

EASIER TO USE

With Windows 2000 Professional, you have faster access to information, and you arte able to accomplish tasks more quickly and easily.

Windows 2000 Professional makes it easier to:

- Work with files.
- Find information.
- Personalize your computing environment.
- Work on the web.

- Work remotely

EASIER TO MANAGE

You and your network administrators can work more efficiently now, because many of the most common computer-management tasks are automated are streamlined with Windows 2000 Professional. With Windows 2000, your workstation will be easier to:

- Set up.
- Administrator
- Support.

MORE COMPATIBLE:

Windows 2000 Professional offers increased compatibility with different types of network and with a wide array of legacy hardware and software.
Windows 2000 also provides:

- Improved driver support.
- Increased support for new-generation hardware multimedia technologies.

MORE POWERFUL:

For all your computing needs, Windows 2000 Professional provides:

- Industrial-strength reliability
- The highest level of security
- Powerful performance

Windows 2000 also contains the following features:

PORTABILITY:

- Windows file protection protects core system files from being overwritten by application installs.

- Driver certification provides safeguards to assure you that device drivers have not been tampered with and reduces your risk of installing non-certified drivers.
- Full 32 bit operating system minimizes the chance of application failures and unplanned reboots.

MOBILITY

- Hibernate turns off your computer and monitors after a predetermined time while retaining your desktop on disk.
- Offline viewing makes entire WebPages with graphics available for viewing offline
- Synchronization manager allows you to compare and update your offline files and folders with those on the network.
- Smart battery gives you a more accurate view of your battery's life enabling you to reduce power to specify functions to extend your battery power.
- Hot docking tells you dock or undock your notebook computer without changing hardware configuration or rebooting.
- Universal Serial Bus (USB) lets you connect and disconnect a wide array of peripherals such as joysticks, scanners and camcorders without configuring or rebooting your computer.
- J2EE 1394 provides a higher band width connection for devices that require faster data transfer.

MAINTAINABILITY

- System preparation tool (sys prep) helps administrators clone computer configuration systems and applications.
- Set up manager provides a graphical wizard that guides administrators in designing installation scripts.
- Multilingual support allows users to easily create, read and edit documentation in hundreds of languages.
- Windows 2000 server offers 25% faster performance than Windows 95 or Windows 98 on systems with 64MB or more of memory.
- 32 bit architecture allows you to run more programs and perform more faster at the same time than Windows 95 or 98.

- Windows 2000 can support to 4GB of Ram and two symmetric multiprocessors.
- Encrypting file system (EFS) encrypts each file with a randomly generated key.
- IP Security (IP Sec) support protected data transmitted across a network.
- Kerberos support provides industry standard high-strength authentication with a fast, single login to windows 2000 enterprise resources.

INTERNET CAPABILITY

- Internet Information Services (IIS) 5.0 includes web and FTP server support, as well as support for Front-page transactions, Active Server Pages (ASP) and database connections.
- Windows 2000 has strong development platform support for dynamic HTML behaviors and XML.
- Intelliforms alleviates the tedious of filling out forms on the web by automatically entering your name, address or other information that you have securely stored on your computer.
- Automated proxy automatically locates a proxy server configures Internet Explorer 5.0 to connect to the internet through the server.

8. Testing :

Software Testing is the process of executing software in a controlled manner, in order to answer the question - Does the software behave as specified?. Software testing is often used in association with the terms verification and validation. Validation is the checking or testing of items, includes software, for conformance and consistency with an associated specification. Software testing is just one kind of verification, which also uses techniques such as reviews, analysis, inspections, and walkthroughs. Validation is the process of checking that what has been specified is what the user actually wanted.

Validation **:** Are we doing the right job?
Verification **:** Are we doing the job right?

Software testing should not be confused with debugging. Debugging is the process of analyzing and localizing bugs when software does not behave as expected. Although the identification of some bugs

will be obvious from playing with the software, a methodical approach to software testing is a much more thorough means for identifying bugs. Debugging is therefore an activity which supports testing, but cannot replace testing.

Other activities which are often associated with software testing are static analysis and dynamic analysis. Static analysis investigates the source code of software, looking for problems and gathering metrics without actually executing the code. Dynamic analysis

looks at the behavior of software while it is executing, to provide information such as execution traces, timing profiles, and test coverage information.

Testing is a set of activity that can be planned in advanced and conducted systematically. Testing begins at the module level and work towards the integration of entire computers based system. Nothing is complete without testing, as it vital success of the system testing objectives, there are several rules that can serve as testing objectives. They are

- Testing is a process of executing a program with the intend of findingan error.
- A good test case is one that has high possibility of finding an undiscovered error.
- A successful test is one that uncovers an undiscovered error.

If a testing is conducted successfully according to the objectives as stated above, it would uncovered errors in the software also testing demonstrate that the software function appear to be working according to the specification, that performance requirement appear to have been met.

There are three ways to test program.

- For correctness
- For implementation efficiency
- For computational complexity

Test for correctness are supposed to verify that a program does exactly what it was designed to do. This is much more difficult than it may at first appear, especially for large programs.

8.1 TEST PLAN

A test plan implies a series of desired course of action to be followed in accomplishing various testing methods. The Test Plan acts as a blue print for the action that is to be followed. The software engineers create a computer program, its documentation and related data structures. The software

developers is always responsible for testing the individual units of the programs, ensuring that each performs the function for which it was designed. There is an independent test group (ITG) which is to remove the inherent problems associated with letting the builder to test the thing that has been built. The specific objectives of testing should be stated in measurable terms. So that the mean time to failure, the cost to find and fix the defects, remaining defect density or frequency of occurrence and test work-hours per regression test all should be stated within the test plan.

The levels of testing include:

- Unit testing
- Integration Testing
- Data validation Testing
- Output Testing

8.1.1 UNIT TESTING

Unit testing focuses verification effort on the smallest unit of software design – the software component or module. Using the component level design description as a guide, important control paths are tested to uncover errors within the boundary of the module. The relative complexity of tests and uncovered scope established for unit testing. The unit testing is white-box oriented, and step can be conducted in parallel for multiple components. The modular interface is tested to ensure that information properly flows into and out of the program unit under test. The local data structure is examined to ensure that data stored temporarily maintains its integrity during all steps in an algorithm's execution. Boundary conditions are tested to ensure that all statements in a module have been executed at least once. Finally, all error handling paths are tested.

Tests of data flow across a module interface are required before any other test is initiated. If data do not enter and exit properly, all other tests are moot. Selective testing of execution paths is an essential task during the unit test. Good design dictates that error conditions be anticipated and error handling paths set up to reroute or cleanly terminate processing when an error does occur. Boundary testing is the last task of unit testing step. Software often fails at its boundaries.

Unit testing was done in Sell-Soft System by treating each module as separate entity and testing each one of them with a wide spectrum of test inputs. Some flaws in the internal logic of the modules were found and were rectified.

8.1.2 INTEGRATION TESTING

Integration testing is systematic technique for constructing the program structure while at the same time conducting tests to uncover errors associated with interfacing. The objective is to take unit tested components and build a program structure that has been dictated by design. The entire program is tested as whole. Correction is difficult because isolation of causes is complicated by vast expanse of entire program. Once these errors are corrected, new ones appear and the process continues in a seemingly endless loop.

After unit testing in Sell-Soft System all the modules were integrated to test for any inconsistencies in the interfaces. Moreover differences in program structures were removed and a unique program structure was evolved.

8.1.3 VALIDATION TESTING OR SYSTEM TESTING

This is the final step in testing. In this the entire system was tested as a whole with all forms, code, modules and class modules. This form of testing is popularly known as Black Box testing or System tests.

Black Box testing method focuses on the functional requirements of the software. That is, Black Box testing enables the software engineer to derive sets of input conditions that will fully exercise all functional requirements for a program.

Black Box testing attempts to find errors in the following categories; incorrect or missing functions, interface errors, errors in data structures or external data access, performance errors and initialization errors and termination errors.

8.1.4 OUTPUT TESTING OR USER ACCEPTANCE TESTING

The system considered is tested for user acceptance; here it should satisfy the firm's need. The software should keep in touch with perspective system; user at the time of developing and making changes whenever required. This done with respect to the following points

- Input Screen Designs,
- Output Screen Designs,
- Online message to guide the user and the like.

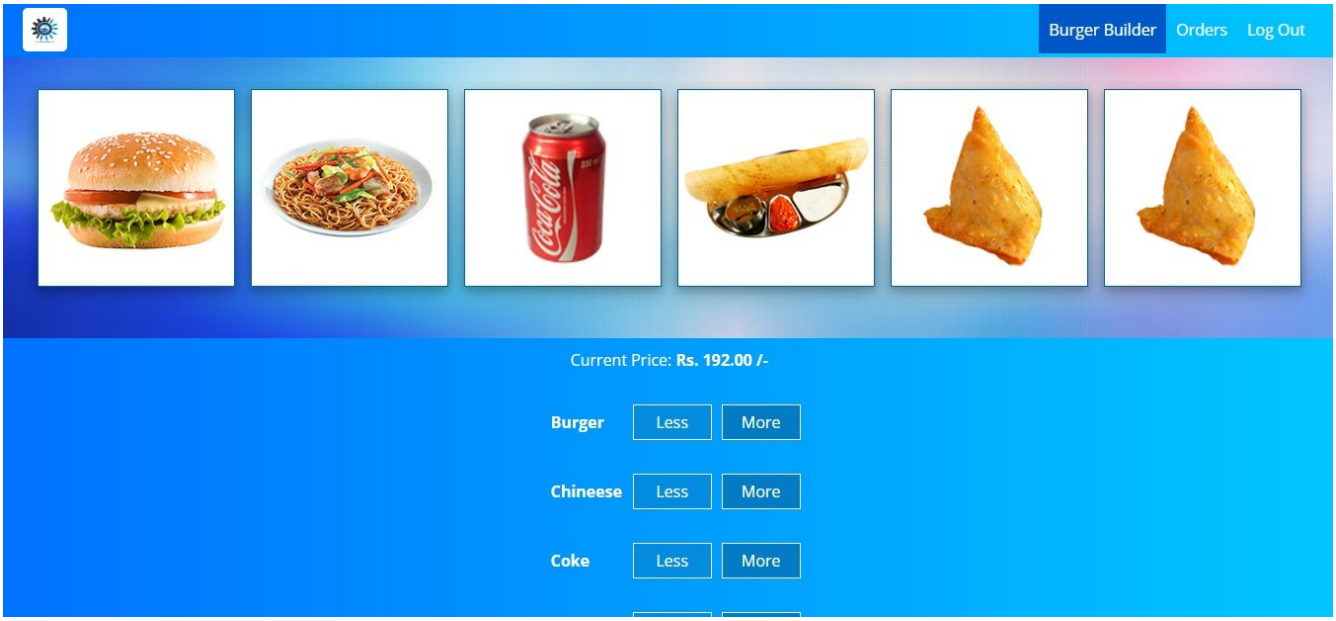
The above testing is done taking various kinds of test data. Preparation of test data plays a vital role in the system testing. After preparing the test data, the system under study is tested using that test data. While testing the system by which test data errors are again uncovered and corrected by using above testing steps and corrections are also noted for future use.

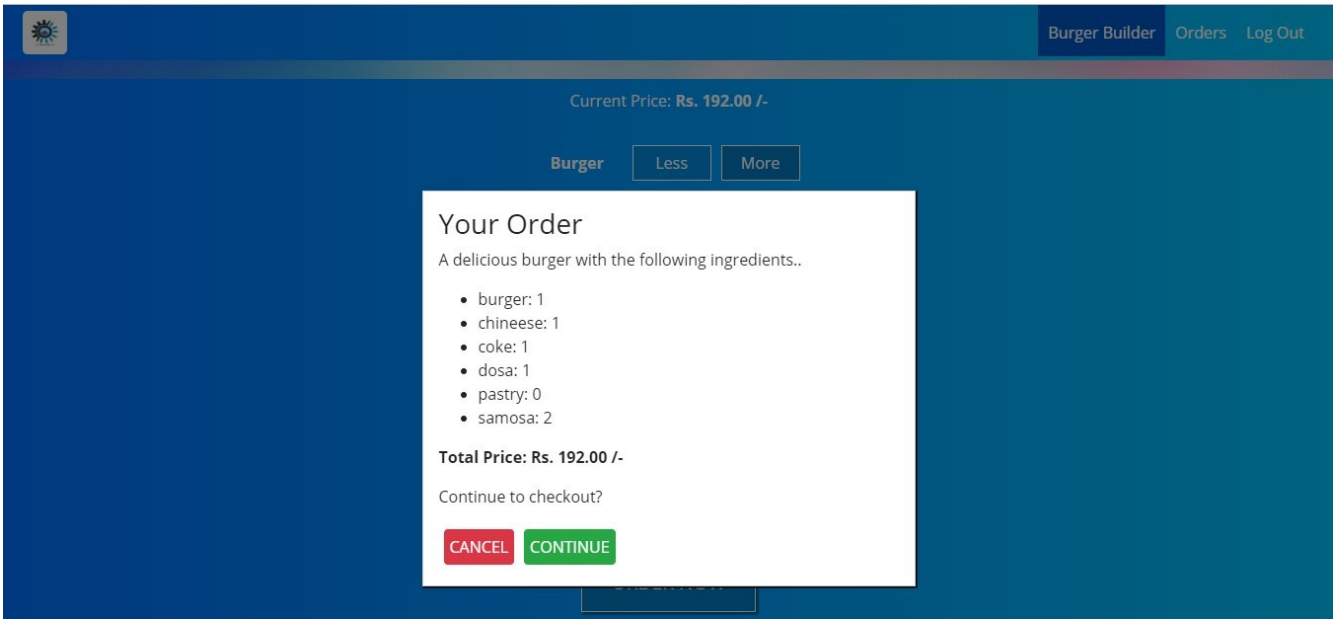
Validation Checking:

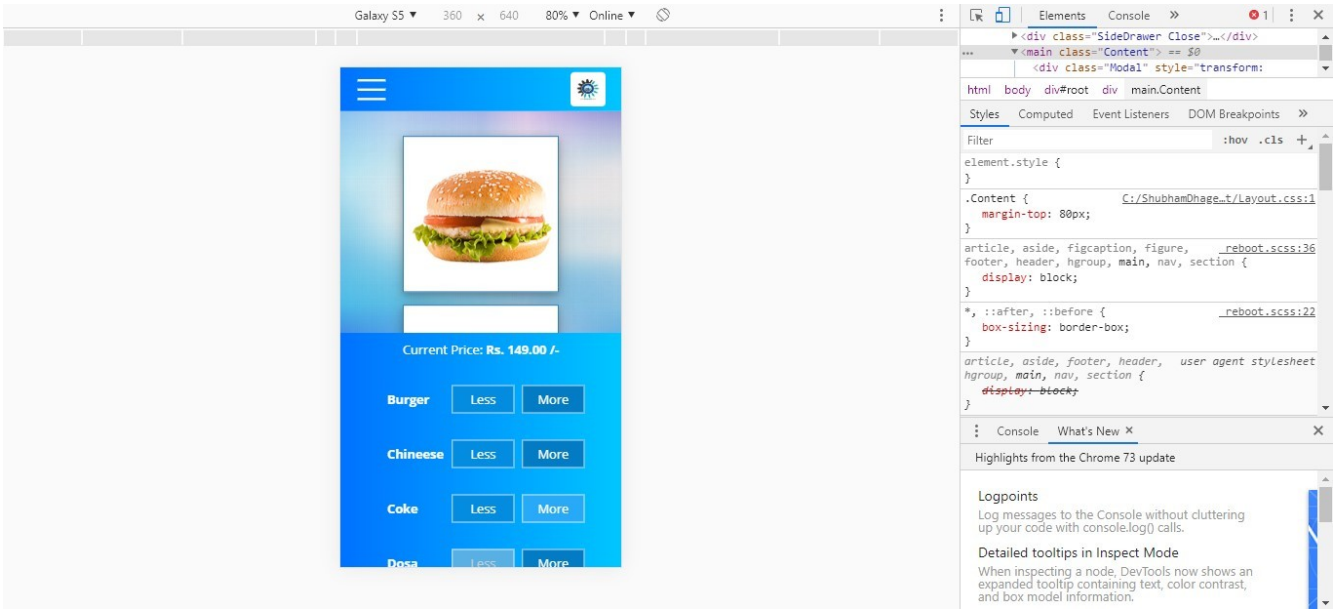
At the culmination of integration testing, software is completely assembled as a package; interfacing errors have been uncovered and corrected, and a final series of software test-validation checks may begin. Validation can be defined in many ways, but a simple definition (Albeit Harsh) is that validation succeeds when software functions in a manner that can be reasonably expected by a customer. Software validation is achieved through a series of black-box tests to be conducted and a test procedure defines specific test cases that will be used in attempt to uncover errors in conformity with requirements. Both the plan and procedure are designed to ensure that all functional requirements are satisfied; all performance requirements are achieved; documentation is correct and human –Engineered and other requirements are met. Once the application was made free of all logical and interface errors , inputting dummy data to ensure that the software developed satisfied all the requirements of the user did validation checks .However , the data are created with the intent of determining whether the system will process them correctly .

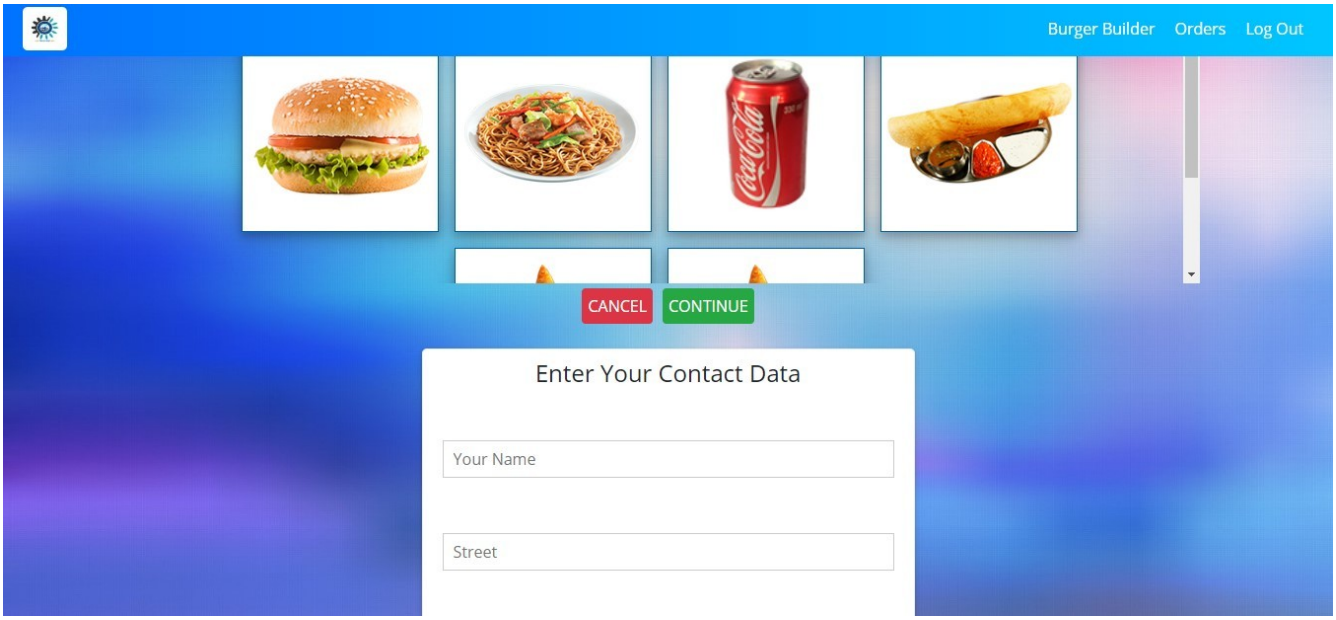
In the proposed system, if the clients click the send button after selecting a file from his file list, then the system will show the confirmation message for sending files. Similarly if a client makes an attempt to download a file from the server file list, then also the system will show the confirmation message for downloading. This is how the data validations were made in the proposed system.

9. SCREEN SHOTS:






Galaxy S5 360 x 640 80% Online
Current Price: Rs. 149.00 /-
Burger Less More
Chineese Less More
Coke Less More
Dosa Less More
Elements Console
Styles Computed Event Listeners DOM Breakpoints
Console What's New
Highlights from the Chrome 73 update
Logpoints
Log messages to the Console without cluttering up your code with console.log() calls.
Detailed tooltips in Inspect Mode
When inspecting a node, DevTools now shows an expanded tooltip containing text, color contrast, and box model information.


Burger Builder
Orders
Log Out
CANCEL
CONTINUE
Enter Your Contact Data
Your Name
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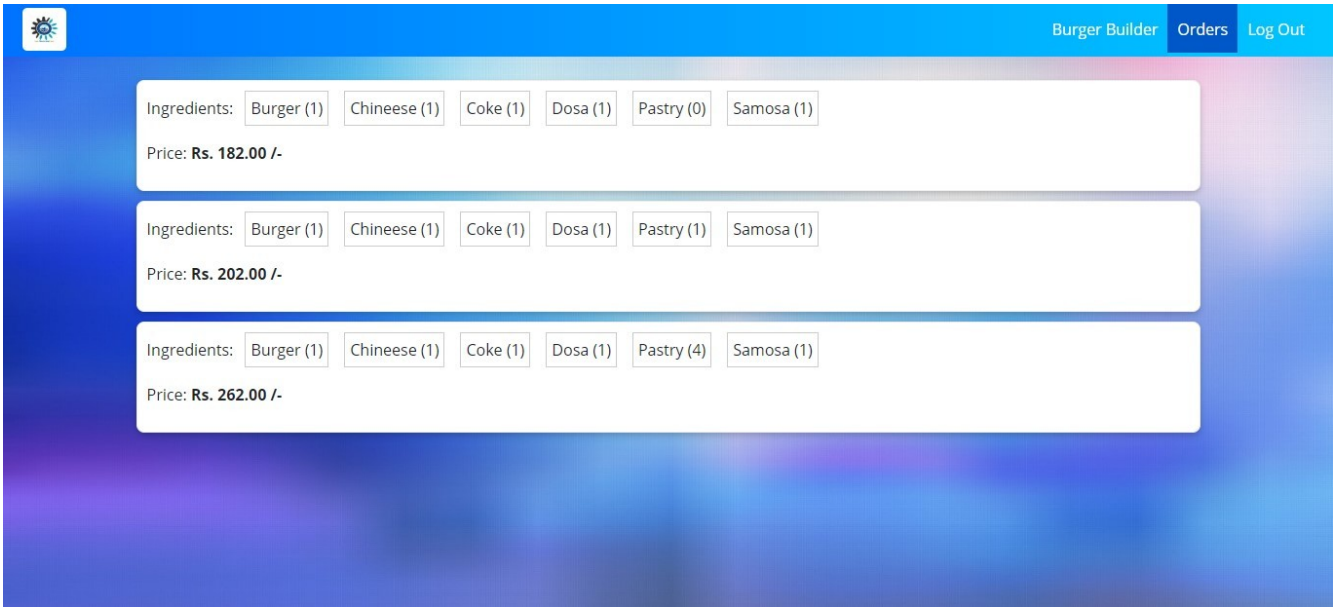
Burger Builder
Orders
Log Out
Ingredients: Burger (1) Chineese (1) Coke (1) Dosa (1) Pastry (0) Samosa (1)
Price: Rs. 182.00 /-
Ingredients: Burger (1) Chineese (1) Coke (1) Dosa (1) Pastry (1) Samosa (1)
Price: Rs. 202.00 /-
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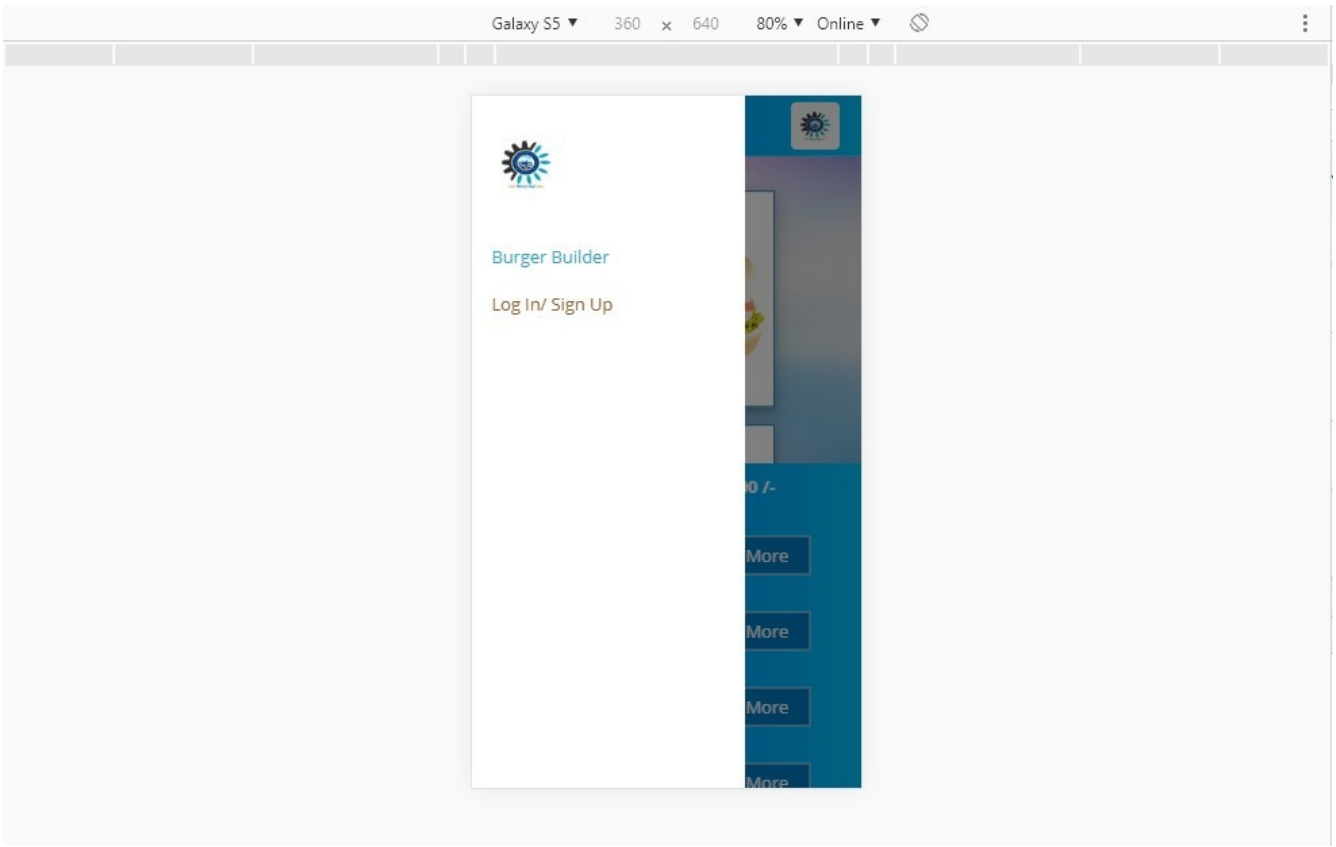
Price: Rs. 262.00 /-


Galaxy S5
360 x 640
80%
Online
Burger Builder
Log In/ Sign Up
More
More
More
More

10. Conclusion :

The main aim of this project Canteen management system is to provide fast services to their college students, Staffs etc. Usually People have to go to canteen and order the foods and they have to wait in queue for a long time to get the orders. But with the help of this you just have to follow a very simple process to order your stuffs. And you need not to wait in the long queue.

This website will provide the list of different menu list with different categories. User can select any item from canteen and can order for it by using debit card payment or wallet Payment. Wallet Recharging available with debit card details or admin can add amount in user's wallet.

Users have to register with valid details and OTP which will get sent to their mobile number to login with canteen. Users also get recommendation for food items, Trending food items.

Canteen Management system manages the all details of food items which contains name, description, image, price etc. Admin can view the confirm order and update the status of the order accordingly.

Customer can check their balance, order history and able to delete the order according to order status.

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