Shiny for household and professional services

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- **Introduction**:

  -Shiny: It is an integrated website to meet all the needs of users from professional, technical and home services where anyone can request a specialized technical to solve the problem faced by this user by visiting the website and creating a personal account and request the specialized person with complete ease.

  -Shiny is the leading platform for connecting individuals looking for household and professional services with top-quality.

  -was founded as a practical solution to an age-old problem: finding top-rated, effective professionals for common.

- **Objective**:

  The main goal of this project is to build a useful website to help customers who face multiple problems at home, work, or anywhere. To achieve this, the following should be done:

  1) The customer's access to the Cheney website.

2) The customer must have a personal account on this site or create a new account in case the customer visits Cheney for the first time.
3) Selecting the required specialized technical person from the search box to solve the problem faced by the customer.

4) He will see a list of technicians who specialize in solving this problem.

5) Choosing the appropriate specialized technical person, where each specialized technician has several criteria by which to choose the specialized technician such as: evaluation of this specialized technician, the price per hour and the region where this specialist resides.

6) The client calls this specialist technician and informs him about the problem.

- **<u>Propose</u>:**

  Therefore, this project seeks to build a website that links clients and specialized technicians.

- **Web technologies used on this website:**

  1)MERN Stack:

  -MERN Stack is a free and open-source JavaScript software stack for building dynamic web sites and web applications.

  -The MERN stack is MongoDB, Express.js, React JS, and Node.js. Because all components of the MERN stack support programs that are written in JavaScript, MERN applications can be written in one language for both server-side and client-side execution environments.

A) MongoDB:

- **MongoDB is a cross-platform document-oriented database program. Classified as a NoSQL database program, MongoDB uses JSON-like documents with schema. MongoDB is developed by MongoDB Inc. and licensed under the Server-Side Public License (SSPL).**

- **Due to the default security configuration of MongoDB, allowing anyone to have full access to the database, data from tens of thousands of MongoDB installations has been**

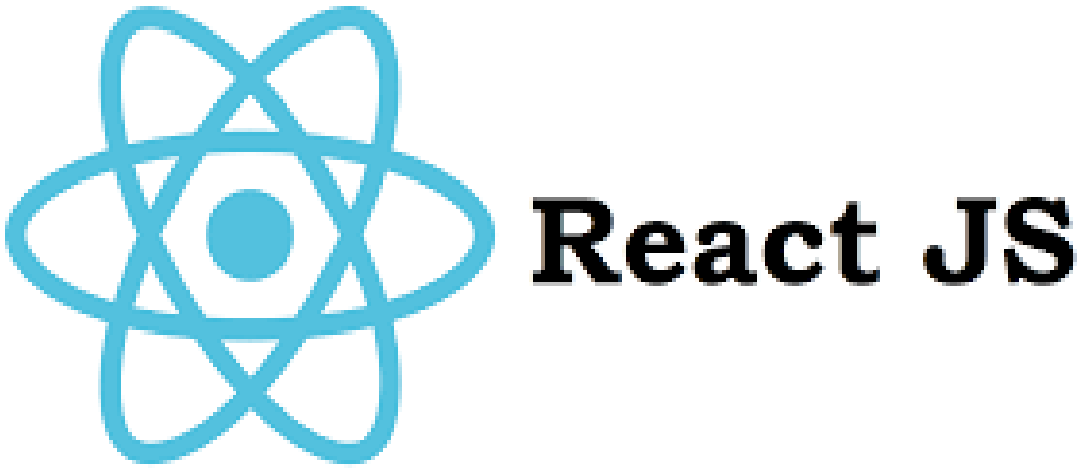
stolen. Furthermore, many MongoDB servers have been held for ransom.

- **From the MongoDB 2.6 release onwards, the binaries from the official MongoDB RPM and DEB packages bind to localhost by default. From MongoDB 3.6, this default behavior was extended to all MongoDB packages across all platforms. As a result, all networked connections to the database will be denied unless explicitly configured by an administrator.**

B) <u>Express.js:</u>

- **Express.js, is a web application framework for Node.js, released as free and open-source software under the MIT License. It is designed for building web applications and APIs.[3] It has been called the de facto standard server framework for Node.js.**

C) React js:



- **React (also known as React.js or ReactJS) is a JavaScript library for building user interfaces. It is maintained by Facebook and a community of individual developers and companies.**

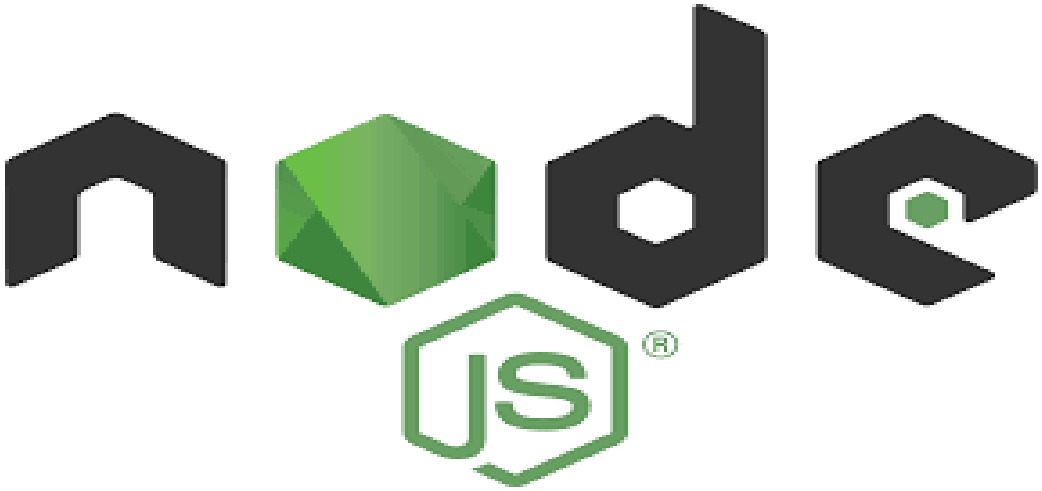
- **React can be used as a base in the development of single-page or mobile applications. However, React is only concerned with rendering data to the DOM and so creating React applications usually requires the use of additional libraries for state management, routing, and interaction with an API. Redux, React Router and axios are respective examples of such libraries.**

- **Virtual DOM: Another notable feature is the use of a virtual Document Object Model, or virtual DOM. React creates an**

in-memory data-structure cache, computes the resulting differences, and then updates the browser's displayed DOM efficiently. This allows the programmer to write code as if the entire page is rendered on each change, while the React libraries only render subcomponents that actually change.

- **JSX, or JavaScript XML, is an extension to the JavaScript language syntax. Similar in appearance to HTML, JSX provides a way to structure component rendering using syntax familiar to many developers. React components are typically written using JSX, although they do not have to be (components may also be written in pure JavaScript). JSX is like another extension syntax created by Facebook for PHP called XHP.**

D)Node.js:



- **Node.js is an open-source, cross-platform, JavaScript runtime environment that executes JavaScript code outside of a browser. Node.js lets developers use JavaScript to write command line tools and for server-side scripting-running scripts server-side to produce dynamic web page content before the page is sent to the user's web browser. Consequently, Node.js represents a "JavaScript everywhere" paradigm, unifying web-application development around a single programming language, rather than different languages for server- and client-side scripts.**

2)HTML and HTML5:

-Hypertext Markup Language (HTML) is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript.

-Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

-HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are

delineated by tags, written using angle brackets. Tags such as <img /> and <input /> directly introduce content into the page. Other tags such as <p> surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags but use them to interpret the content of the page.

3)CSS3:

-Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language like HTML.[1] CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

-CSS is designed to enable the separation of presentation and content, including layout, colors, and fonts. This separation

can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file, and reduce complexity and repetition in the structural content.

-Separation of formatting and content also makes it feasible to present the same markup page in different styles for different rendering methods, such as on-screen, in print, by voice (via speech-based browser or screen reader), and on Braille-based tactile devices. CSS also has rules for alternate formatting if the content is accessed on a mobile device.

3)<u>Bootstrap:</u>

-Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains CSS- and (optionally) JavaScript-based.

4)JavaScript:

-JavaScript, often abbreviated as JS, is a high-level, just-in-time compiled, multi-paradigm programming language that conforms to the ECMAScript specification. JavaScript has curly-bracket syntax, dynamic typing, prototype-based object-orientation, and first-class functions.

-Alongside HTML and CSS, JavaScript is one of the core technologies of the World Wide Web. JavaScript enables interactive web pages and is an essential part of web applications. The vast majority of websites use it,and major web browsers have a dedicated JavaScript engine to execute it.

-As a multi-paradigm language, JavaScript supports event-driven, functional, and imperative (including object-oriented and prototype-based) programming styles. It has APIs for working with text, arrays, dates, regular expressions, and the

DOM, but the language itself does not include any I/O, such as networking, storage, or graphics facilities. It relies upon the host environment in which it is embedded to provide these features.

-Initially only implemented client-side in web browsers, JavaScript engines are now embedded in many other types of host software, including server-side in web servers and databases, and in non-web programs such as word processors and PDF software, and in runtime environments that make JavaScript available for writing mobile and desktop applications, including desktop widgets.

- **The Software used on this website:**

  A) Visual Studio Code:

-Visual Studio Code is a source-code editor developed by Microsoft for Windows, Linux and macOS. It includes support for debugging, embedded Git control and GitHub, syntax highlighting, intelligent code completion,

snippets, and code refactoring. It is highly customizable, allowing users to change the theme, keyboard shortcuts, preferences, and install extensions that add additional functionality. The source code is free and open source and released under the permissive MIT License. The compiled binaries are freeware and free for private or commercial use.

-Visual Studio Code is based on Electron, a framework which is used to develop Node.js applications for the desktop running on the Blink layout engine. Although it uses the Electron framework, the software does not use Atom and instead employs the same editor component (codenamed "Monaco") used in Azure DevOps (formerly called Visual Studio Online and Visual Studio Team Services).

B) Robo 3T:

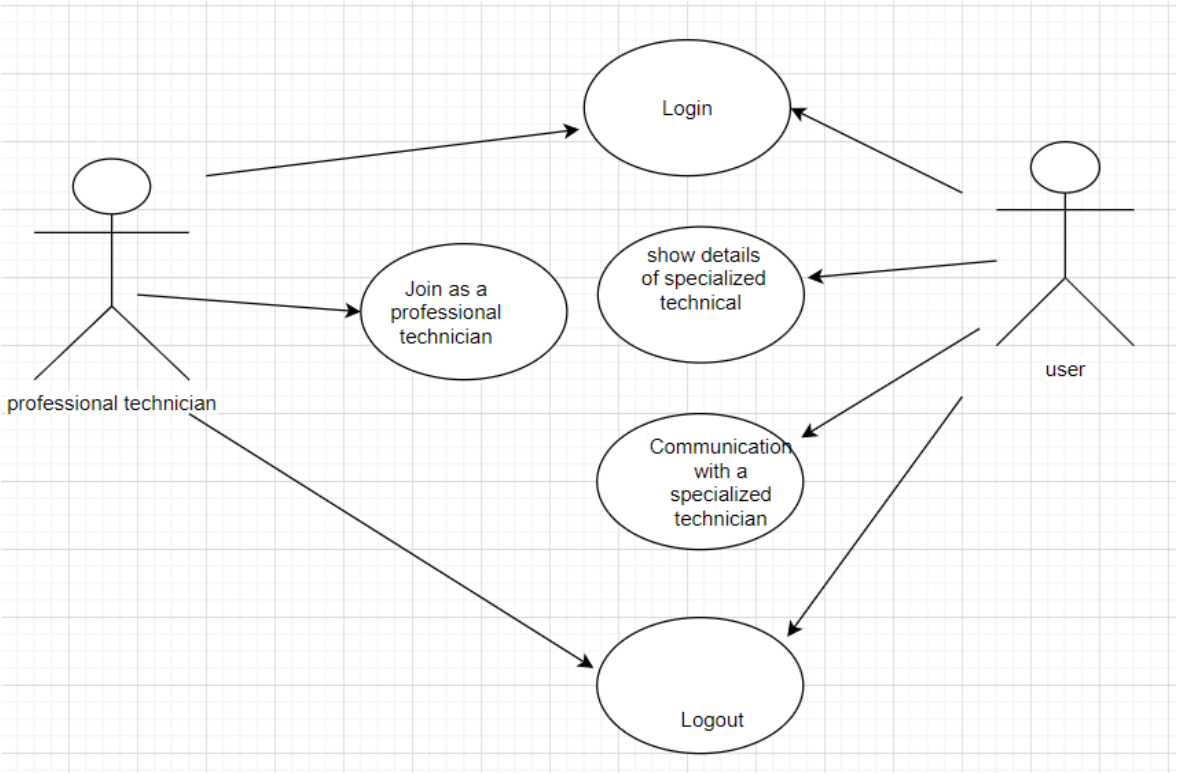
-The Robo 3T (formerly Robomongo) tool has been acquired by 3T Software Labs, the creators of the MongoDB client Studio 3T (formerly MongoChef).

3T will continue development of Robo 3T in parallel with its own MongoDB GUI and the good news is that it will be making Robo 3T free for all users from now on. This is an exciting new step for Robo 3T and its community, which will benefit users and the wider MongoDB ecosystem. Click here to read Dmitry's blog explaining the reasons behind the deal and check the FAQ.

C) Postman:

-Postman is a collaboration platform for API development. Postman's features simplify each step of building an API and streamline collaboration so you can create better APIs—faster.

- **Use Case Diagram:**



- **Functional Requirement:**

  1. The users logs in to the website.

  2. Users can join the list of professional technicians.

  3.Users can show the details of professional technician

  4. The user should contact the appropriate specialist technician.

  5. Users can report if there are technical problems or with professional technicians.

  6. Users log out to the website.

- **Reference:**

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-https://ar.wikipedia.org/wiki

-https://w3schools.com

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- https://reactjs.org

-https://mockflow.com