



SMART TECHNICIAN ASSIGNING

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TOPIC OUTLINE

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- 4. Scope
- 5. Unique Features
- 6. Structure
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INTRODUCTION

- The Technician Assignment Manager is a system designed to manage and assign technicians to different tasks efficiently. It helps track technician availability, assign jobs based on skills, and monitor work progress. Service delivery is enhanced, delays are minimized, and customer satisfaction is enhanced by this system.



OBJECTIVE

- The objective of building a technician assignment manager website using the MERN stack (MongoDB, Express.js, Node.js) is to create a dynamic, user-friendly web application that allows users to interact book technicians , key goals include:
- Efficient technician task assignment
- Real-time availability tracking
- Reduce service delays
- Improve customer satisfaction
- Streamline workflow
- Optimize resource usage



ADVANCED FEATURES

- **1. Real-Time Technician Tracking**
- **Key Point:** Use location tracking (via GPS or manual updates).
- **Description:** Allows the admin to see where technicians are currently located. Helps in assigning the nearest technician to a task to save time.
- **2. Automated Assignment Based on Skills & Availability**
- **Key Point:** Match technician skills with task requirements.
- **Description:** The system auto-selects the best technician for a job based on their skill set and whether they are free. Reduces manual work.
- **3. Technician Performance Monitoring**
- **Key Point:** Track task completion time, ratings, and delays.
- **Description:** Helps evaluate technician performance over time. Can be used for reports or rewards.
- **4. Secure Login & Session Management**
- **Key Point:** Simple authentication using username & password.
- **Description:** Keeps the data secure and ensures only authorized users can access specific information.

SCOPE

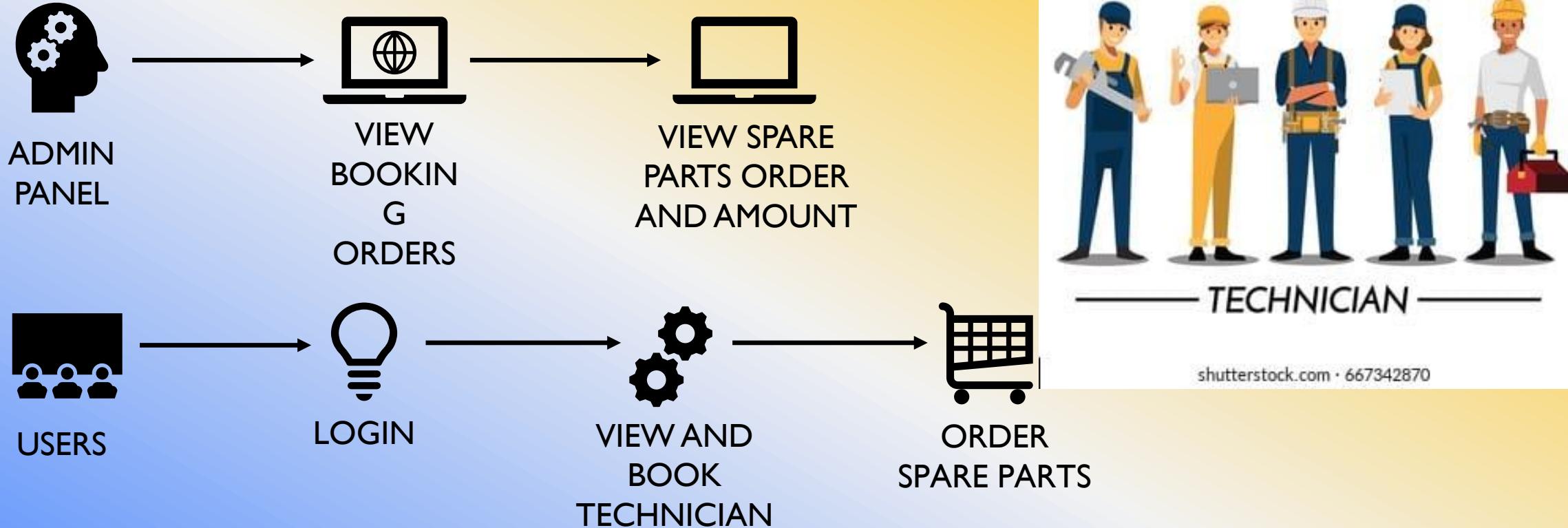
- **Technician Registration and Login**
 - Technicians can sign up and log in to the system.
- **Admin Login**
 - Admin can log in to assign tasks and manage the system.
- **Task Assignment**
 - Admin can assign tasks to technicians with details like task name, date, and customer.
- **View Assigned Tasks**
 - Technicians can see the list of tasks assigned to them.
- **Simple Dashboard**
 - Admin and technicians each have a dashboard to view relevant data.



UNIQUE FEATURES

- 1.  Role-Based Access Control
 - Description: Separate login access for Admin and Technicians.
 - Benefit: Ensures data privacy and task-based views for each user role.
- 2.  Manual & Skill-Based Task Assignment
 - Description: Admin can assign tasks manually based on technician skills or availability.
 - Benefit: More accurate and efficient task distribution.
- 3.  Real-Time Task Status Updates
 - Description: Technicians can update job status as “Pending”, “In Progress”, or “Completed”.
 - Benefit: Keeps admin informed about ongoing work in real time.
- 4.  Technician Availability Status
 - Description: Technicians can mark themselves as “Available” or “Not Available”.
 - Benefit: Helps admin avoid assigning jobs to unavailable technicians.
- 5.  Task History Tracking
 - Description: View list of past tasks completed by each technician.
 - Benefit: Useful for performance analysis and accountability.
- 6.  Smart Task Filtering
 - Description: Admin can filter tasks by date, technician, or status.
 - Benefit: Makes task management fast and organized.
- 7.  Simple Dashboard for Admin and Technician
 - Description: Clear summary of assigned tasks, completed jobs, and technician details.
 - Benefit: Easy to use and understand for all users.
- 8.  A Secure Method of Login Description: Password-protected login for all users.
 - Benefit: Prevents unauthorized access.
- 9.  Minimal & Lightweight Design
 - Description: Designed to be fast and simple for small or medium businesses.
 - Benefit: Works well even without high-end systems or internet speed.

STRUCTURE



SYSTEM REQUIREMENT

- **HARDWARE REQUIREMENT:**

- PROCESSOR :- Dual core and above
- RAM / ROM :- 10 Gb of free disk space & minimum 8Gb of RAM
- MOTHERBOARD :- INTEL

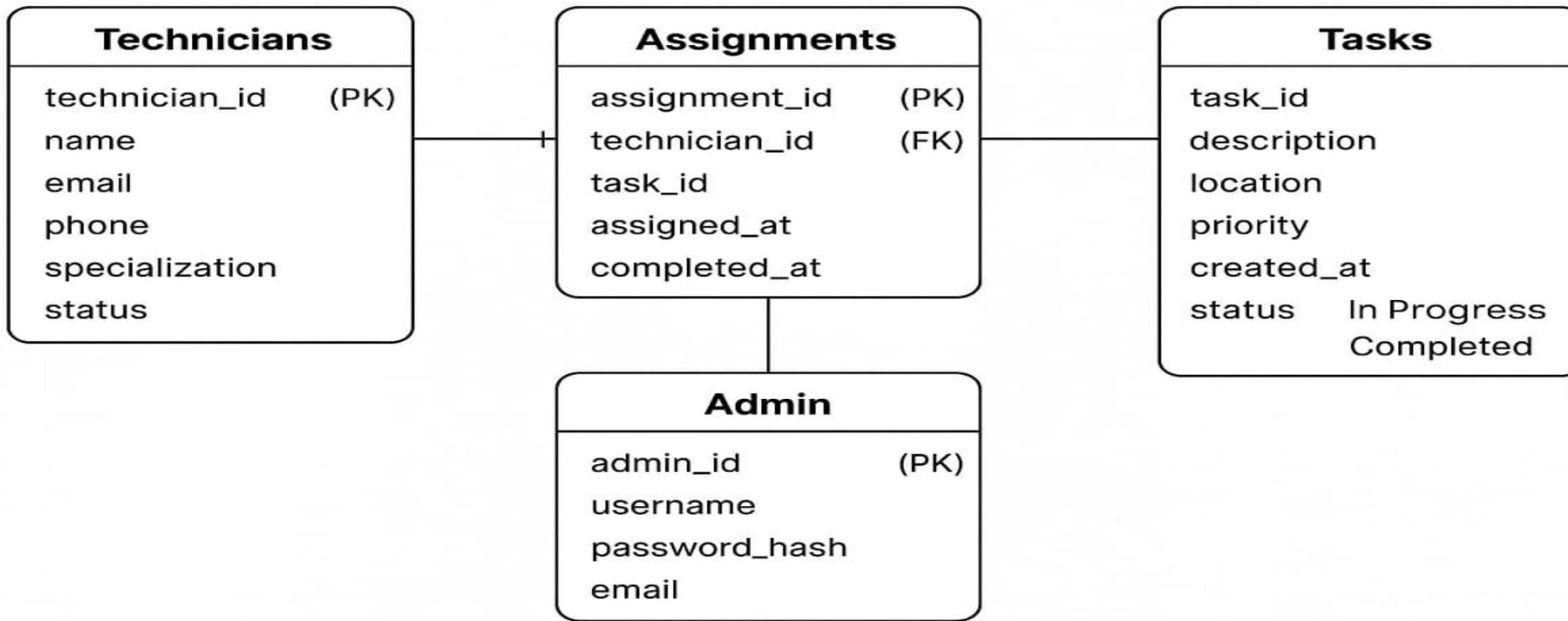
- **SOFTWARE REQUIREMENT:**

- OPERATING SYSTEM :- Windows 10, 11
- PROG.LANGUAGE :- HTML, CSS, JS, React
- DATABASE :- MONGODB
- IDE USED :- VS Code

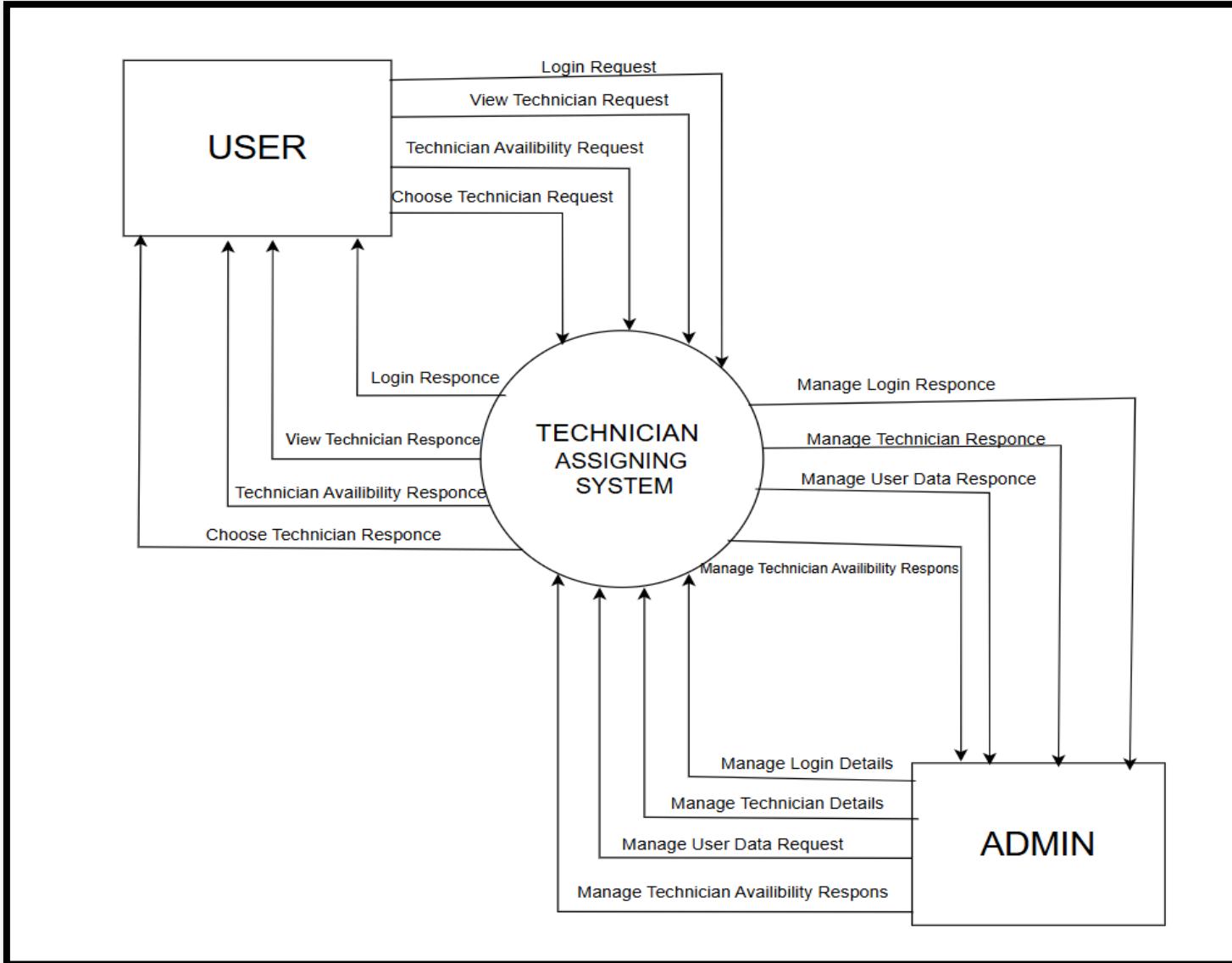


SCHEMA DIAGRAM

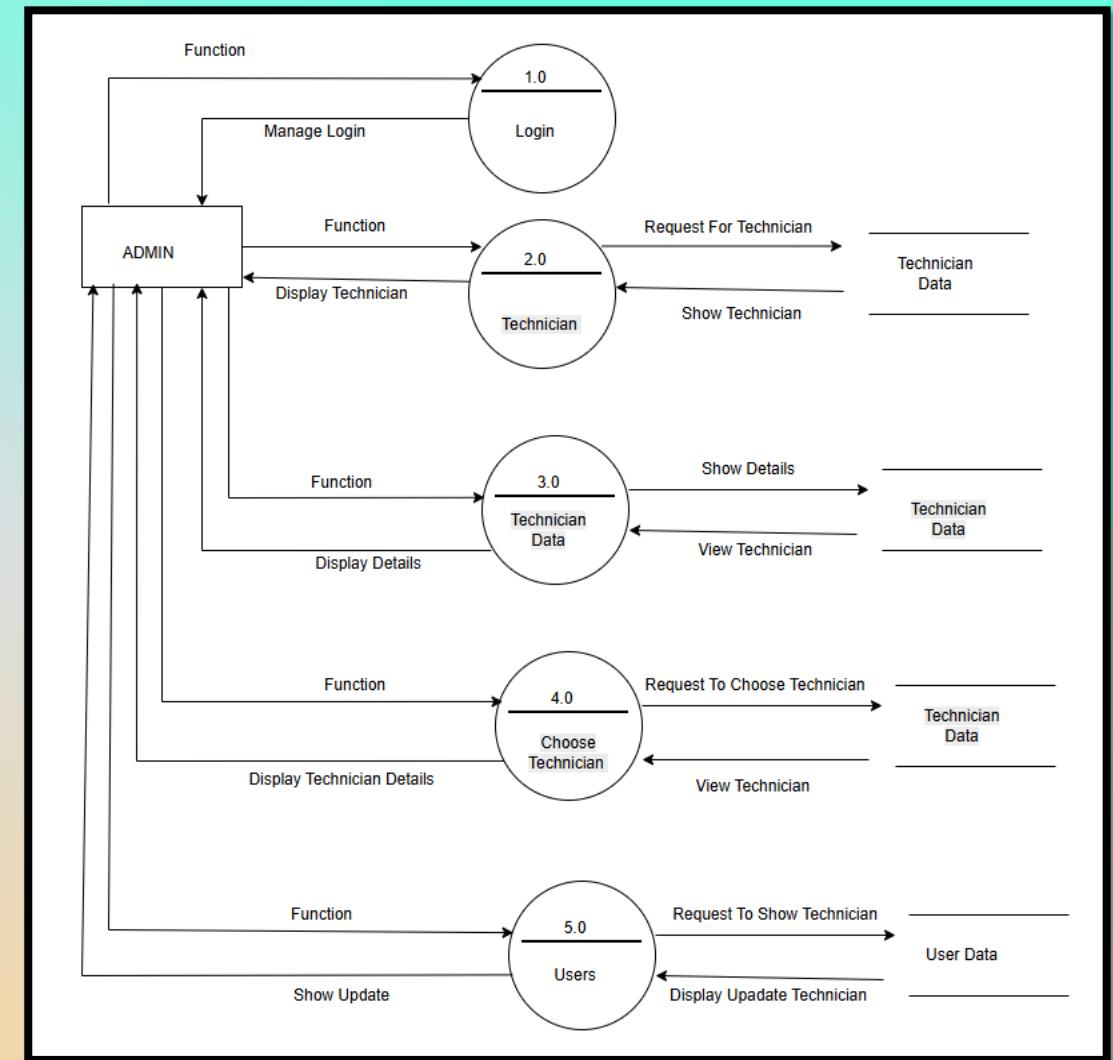
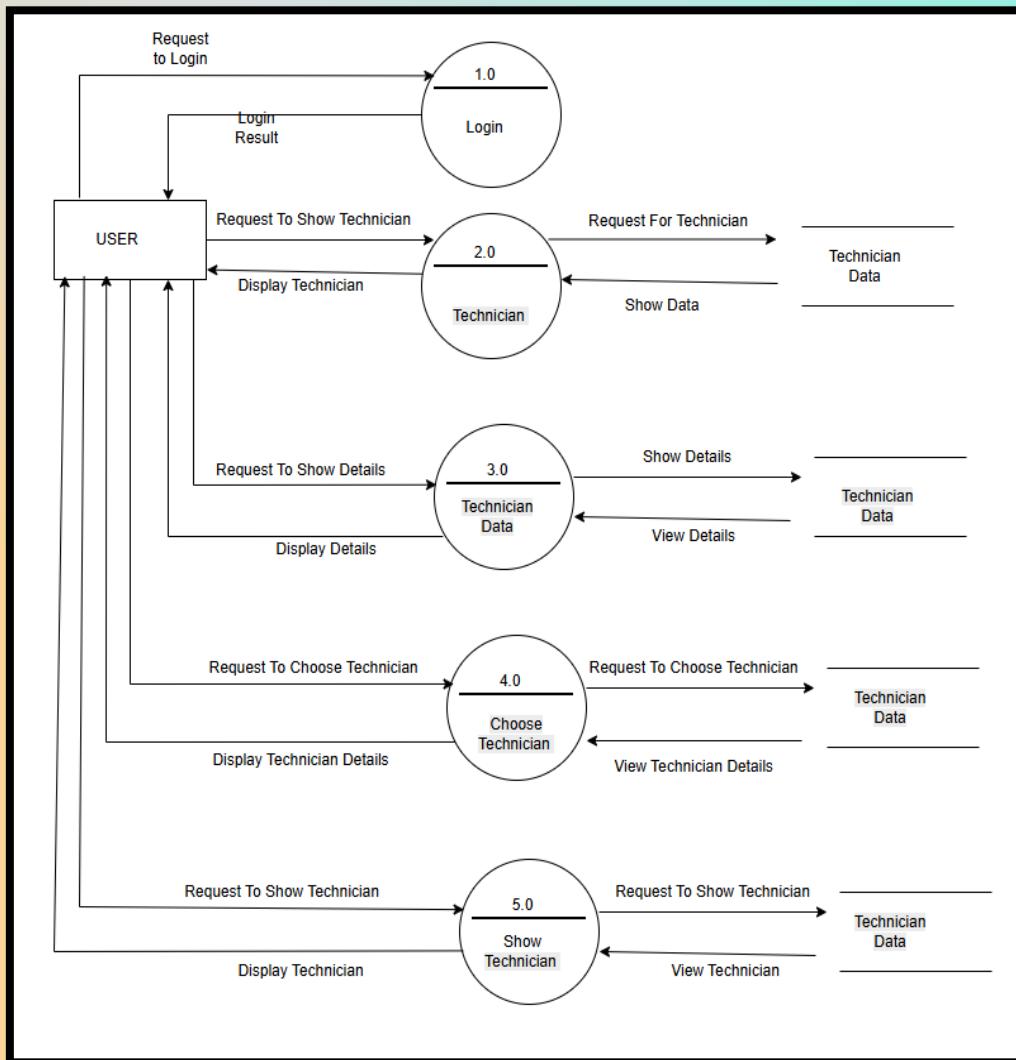
Technician Assignment Manager



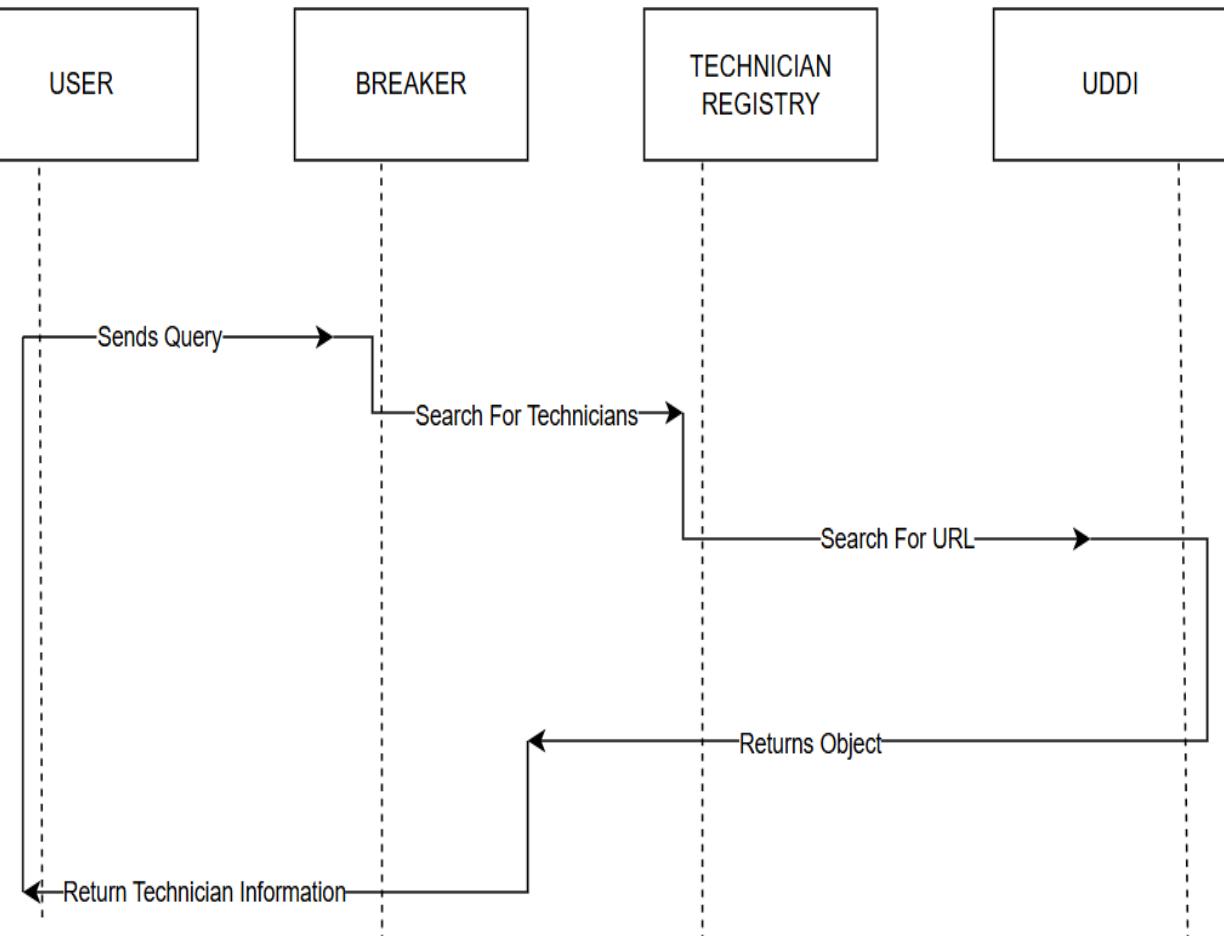
LEVEL 0 DFD STRUCTURE



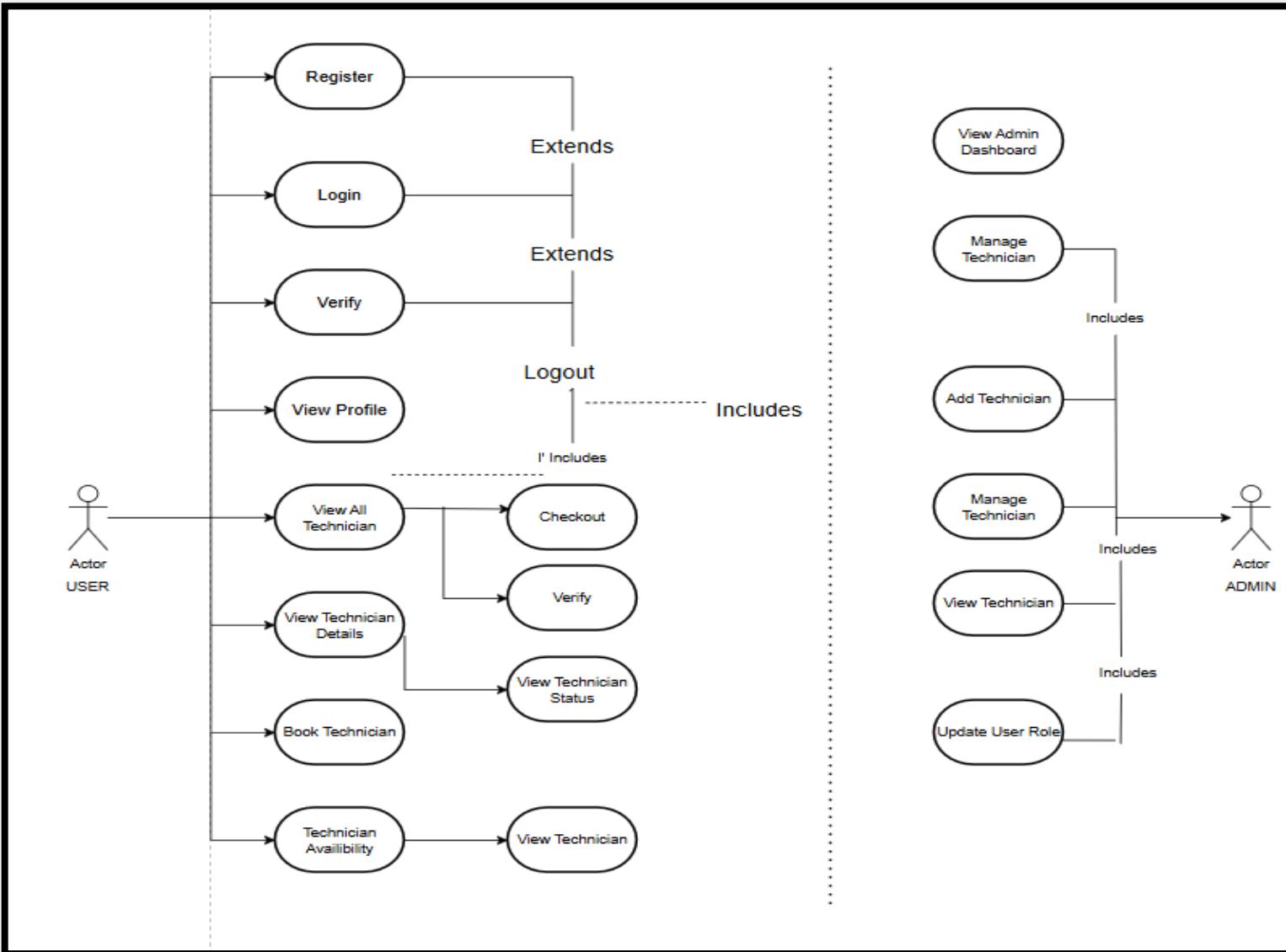
LEVEL 1 DFD STRUCTURE



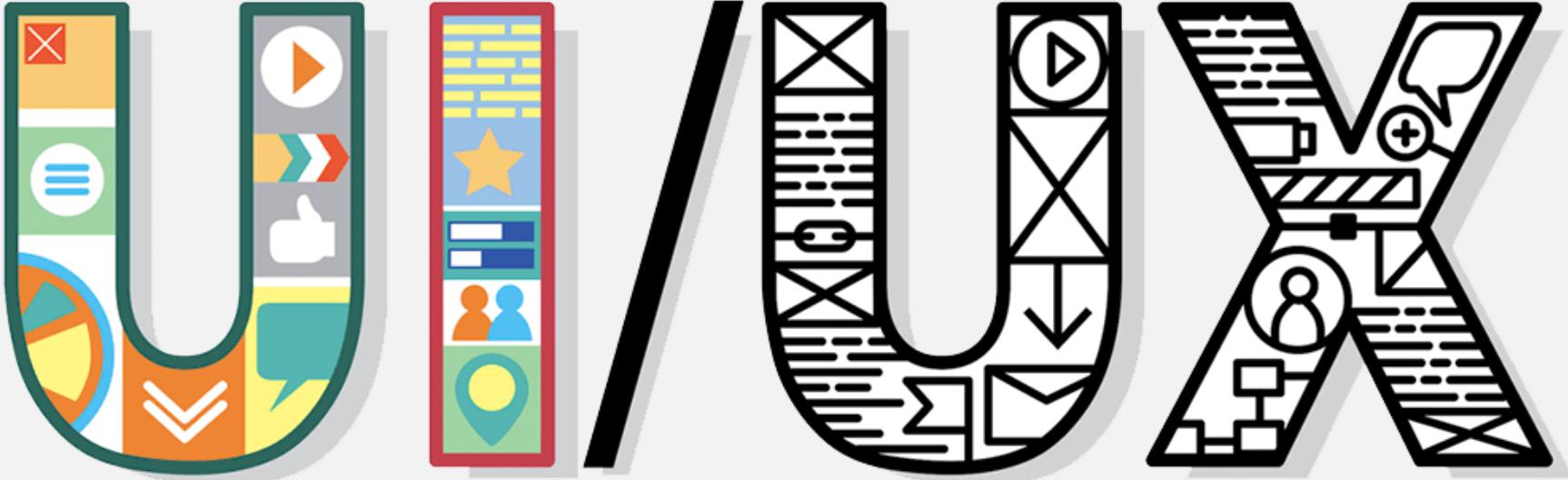
SEQUENCE DIAGRAM



USE CASE DIAGRAM

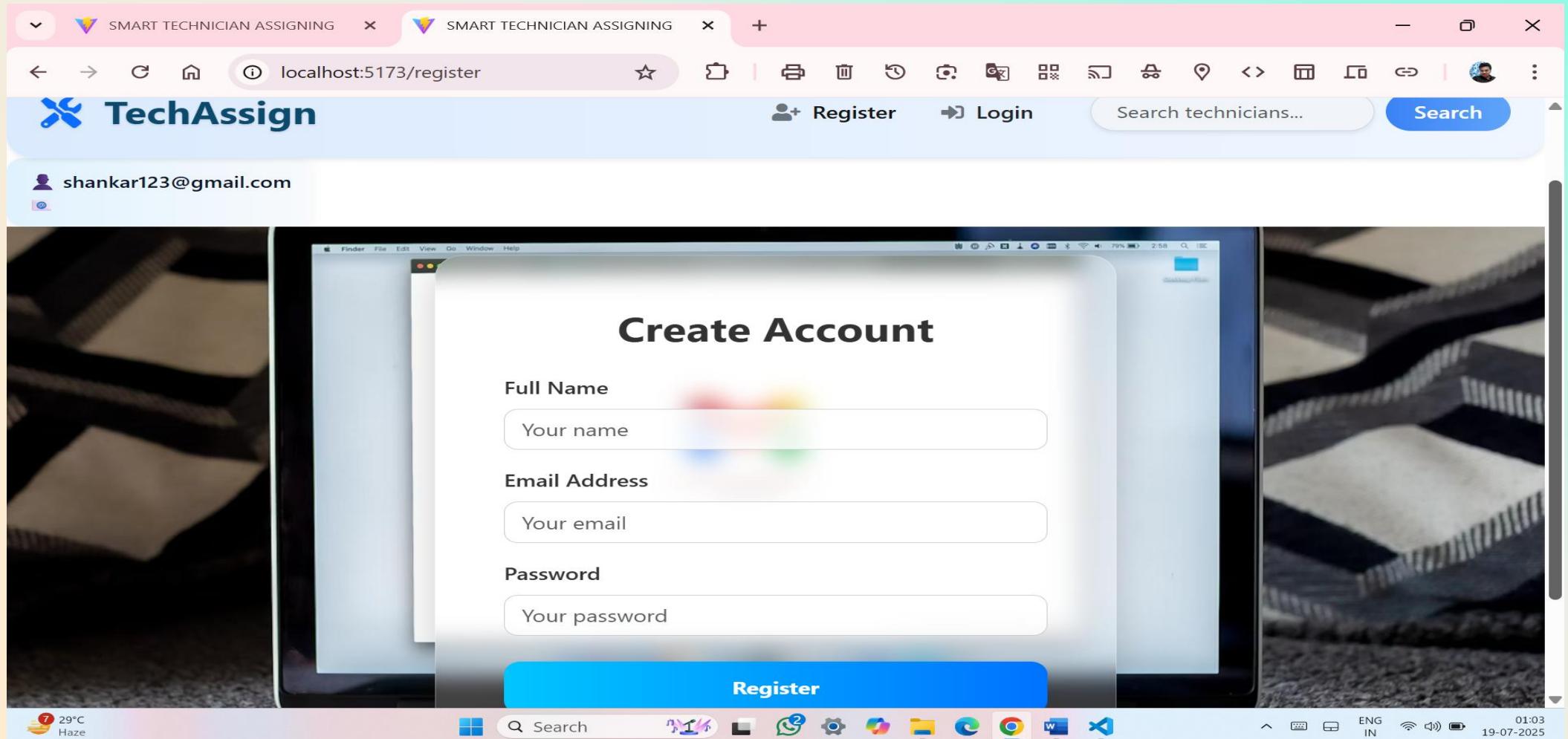


PROJECT'S UI



DESIGN

REGISTER PAGE



LOGIN PAGE

The screenshot shows a web browser window with two tabs, both titled "SMART TECHNICIAN ASSIGNING". The active tab's URL is "localhost:5173/login". The page itself is the TechAssign login interface, featuring a "Welcome Back" message with a small emoji of a person at a computer. It includes fields for "Email or Username" and "Password", each with a placeholder text "Enter your email or username" and "Enter your password" respectively. A large blue "Login" button is centered below these fields. The background of the page is a photograph of a desk setup with a laptop, a smartphone, a notebook, and some snacks. The browser's toolbar at the top includes icons for back, forward, search, and other common functions. The taskbar at the bottom of the screen displays various pinned application icons, and the system tray shows the date and time as "19-07-2025" along with other system status indicators.

HOME PAGE

SMART TECHNICIAN ASSIGNING SMART TECHNICIAN ASSIGNING

localhost:5173/home

TechAssign

shankar123@gmail.com

Dashboard Home About Contact Logout

Search technicians... Search

Technician Zone

Premium access to our elite pool of certified technicians across services



AC Technician
AC repair & installation expert

[View Technician](#)



Software Technician
OS install & software fix specialist

[View Technician](#)



Electrician
Wiring & circuit expert

[View Technician](#)



Laptop Technician
Laptop repair & upgrade expert

[View Technician](#)

29°C Haze Search Home About Contact Logout ENG IN 01:05 19-07-2025

TECHNICIAN VIEW PAGE

SMART TECHNICIAN ASSIGNING SMART TECHNICIAN ASSIGNING

localhost:5173/technician/Software%...

Software Tech 1
OS install & software fix specialist

ID: 21
Location: Chennai
Experience: 5 years
Rating: 3.7

Software Tech 2
OS install & software fix specialist

ID: 22
Location: Bangalore
Experience: 1 years
Rating: 4.2

Software Tech 3
OS install & software fix specialist

ID: 23
Location: Chennai
Experience: 1 years
Rating: 3.1

29°C Haze

Search

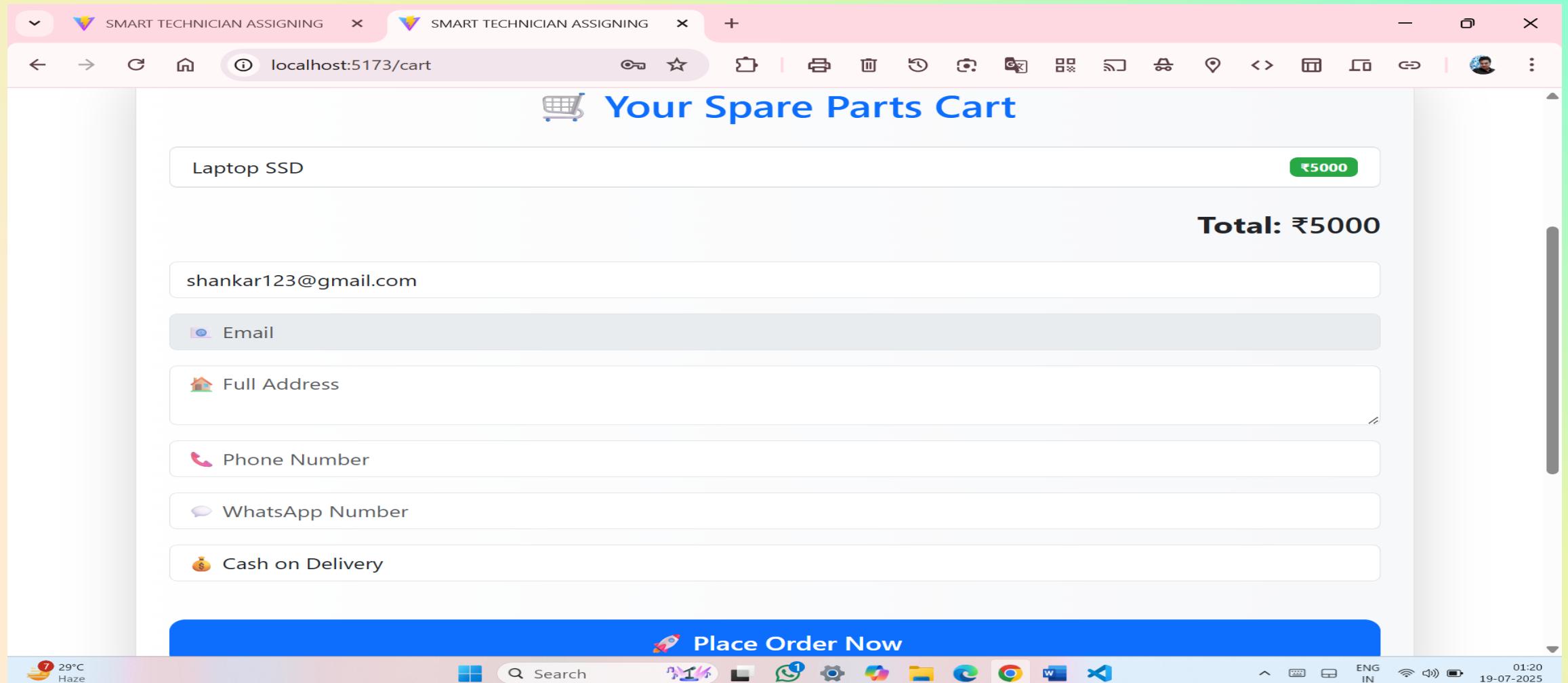
19-07-2025 01:08

SPARE PARTS PAGE

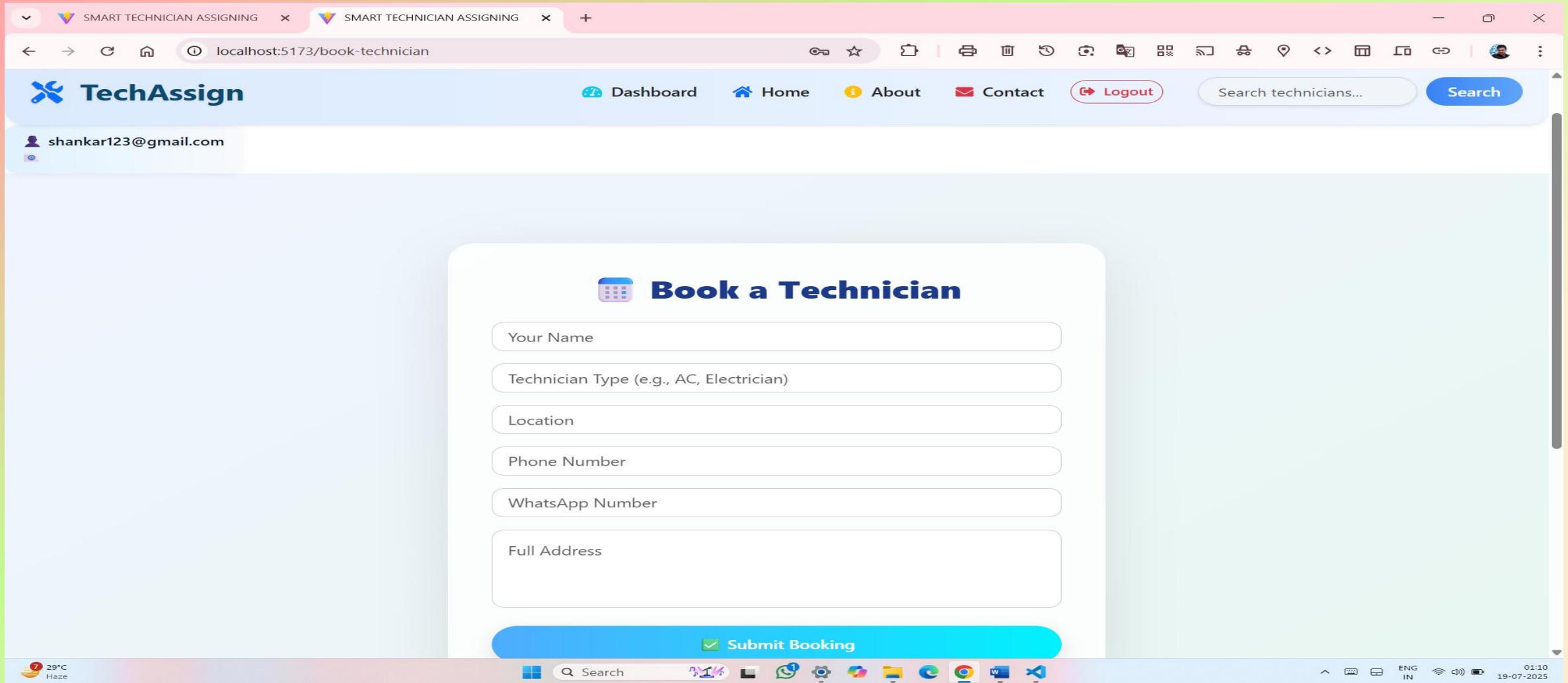
The screenshot shows a web browser window with the following details:

- Header:** Two tabs labeled "SMART TECHNICIAN ASSIGNING" are visible. The active tab has a yellow and purple logo.
- Address Bar:** The URL "localhost:5173/home" is displayed.
- Toolbar:** Standard browser icons for back, forward, search, and file operations are present.
- Page Content:**
 - Section Header:** "Spare Parts Store" with a wrench and screwdriver icon.
 - Tagline:** "Explore high-quality spare parts trusted by top repair experts".
 - Product Cards (Top Row):**
 - AC Filter:** Compatible with all brands, ₹500. "Add to Cart" button.
 - Laptop Charger:** 65W original, ₹1000. "Add to Cart" button.
 - Electric Fuse:** High performance, ₹150. "Add to Cart" button.
 - Product Cards (Bottom Row):**
 - Software Dongle:** Unlock tools, ₹200. "Add to Cart" button.
 - Electric Tape:** Premium insulation tape, ₹50. "Add to Cart" button.
 - AC Remote:** Universal remote, ₹800. "Add to Cart" button.
- System Icons:** Weather (7, 29°C Haze), battery level, signal strength, and system status.
- Page Footer:** Date (19-07-2025) and time (01:17).

CART



TECHNICIAN BOOKING PAGE



The screenshot shows a web browser window titled "SMART TECHNICIAN ASSIGNING" with the URL "localhost:5173/book-technician". The page is part of the "TechAssign" application, which has a logo featuring a blue wrench and screwdriver icon.

The main navigation bar includes links for "Dashboard", "Home", "About", "Contact", "Logout", and a search bar for technicians. The user is currently logged in as "shankar123@gmail.com".

The central content area is titled "Book a Technician" and contains six input fields:

- Your Name
- Technician Type (e.g., AC, Electrician)
- Location
- Phone Number
- WhatsApp Number
- Full Address

At the bottom of the form is a blue button labeled "Submit Booking" with a checkmark icon.

The system tray at the bottom of the screen displays the Windows taskbar with various pinned icons, the date and time (19-07-2025, 01:10), and a weather widget showing 29°C Haze.

USER SEARCH

SASWATA_PROJECT_PPT[1].pdf Technician Assigning System SASWATA_PROJECT_PPT[1].pdf

localhost:5173/search/AC

Technician System Book Technician Cart

 TechAssign Dashboard Home About Contact Logout Search

Search Results for "ac"



AC Tech 1
AC repair & installation expert

Type: AC Technician
Location: Mumbai
Experience: 6 years
Rating: ★ 3.2



AC Tech 2
AC repair & installation expert

Type: AC Technician
Location: Delhi
Experience: 1 years
Rating: ★ 4.5



AC Tech 3
AC repair & installation expert

Type: AC Technician
Location: Mumbai
Experience: 6 years
Rating: ★ 4.5

View Technician

30°C Mostly cloudy

Search

13:29 29-06-2025

FOOTER

The screenshot shows a web browser window with a pink header bar. The title bar reads "SMART TECHNICIAN ASSIGNING" and the address bar shows "localhost:5173/home". The main content area is a large white space with three identical green "Add to Cart" buttons. Below this is a dark blue footer section containing the following text:

SD Technician System

SD Technician System is your trusted platform to book skilled technicians across categories like AC, Electrical, Mobile, and Software. Reliable service, verified professionals, and a seamless booking experience.

On the right side of the footer, there are social media icons for Facebook and Instagram. At the bottom, a copyright notice reads "© 2025 SD Technician System | Developed by Shankar Kumar Dhar". The system tray at the bottom of the screen displays various icons, including a weather icon showing 29°C Haze, a search bar, and several application icons.

ADMIN DASHBOARD

SMART TECHNICIAN ASSIGNING SMART TECHNICIAN ASSIGNING localhost:5173/admin-dashboard

Technician Bookings

User	Technician Type	Location	Date	Status
Ravi Saha	Electrician	Delhi	7/16/2025, 12:35:21 AM	✓ Confirmed
Shankar dhar	ac	Goa	7/5/2025, 2:36:18 PM	✓ Confirmed
Shankar dhar	AC	rrnh	7/5/2025, 12:11:33 AM	✓ Confirmed
Shankar dhar	AC	www	7/4/2025, 11:44:51 AM	✓ Confirmed
Shankar dhar	AC	Sodepur	7/1/2025, 8:37:14 PM	✓ Confirmed
Shankar dhar	Electrician	Kolkata	7/1/2025, 5:34:33 PM	✓ Confirmed
Shankar dhar	AC	Goa	7/1/2025, 4:12:58 PM	✓ Confirmed
Shankar dhar	AC	Delhi	7/1/2025, 1:25:18 PM	✓ Confirmed
Shankar dhar	AC	Sodepur	6/30/2025, 7:13:09 PM	✓ Confirmed
Shankar dhar	AC	Sodepur	6/29/2025, 10:59:39 PM	✓ Confirmed
Shankar dhar	AC	Dankuni	6/29/2025, 10:50:18 PM	✓ Confirmed
Shankar dhar	AC	Kolkata	6/29/2025, 12:25:59 AM	✓ Confirmed
Unknown User	Unknown Type	Unknown Location	6/28/2025, 10:47:03 PM	✓ Confirmed
Unknown User	Unknown Type	Unknown Location	6/28/2025, 10:46:23 PM	✓ Confirmed
Paro Roy	Electrician	Sodepur	7/19/2025, 1:13:28 AM	✓ Confirmed
Shankar dhar	AC	Dankuni	7/19/2025, 1:13:28 AM	✓ Confirmed

Gold +0.61% 01:15 ENG IN 19-07-2025

ADMIN SPARE PARTS ORDER

SMART TECHNICIAN ASSIGNING SMART TECHNICIAN ASSIGNING

localhost:5173/admin-dashboard

Admin Dashboard

Spare Parts Orders

Customer	Items	Address	Phone	WhatsApp	Total	Payment Mode	Date
shankar123@gmail.com	• Laptop SSD	ffdssfdfr4r	433434	34344334	₹5000	Online Payment	7/16/2025, 10:55:08 PM
shankar123@gmail.com	• Laptop Charger	gghghd	54544554	5454	₹1000	Online Payment	7/16/2025, 10:30:28 PM
shankar123@gmail.com	• Electric Wire	fdvff	34253454	4325454354	₹200	Online Payment	7/16/2025, 10:28:15 PM
shankar123@gmail.com	• Electric Wire	vbbg	effed	343434	₹200	Online Payment	7/16/2025, 10:23:45 PM
shankar123@gmail.com	• Laptop SSD	ewfeefd	3443243	34343434	₹5000	Online Payment	7/16/2025, 10:20:29 PM
shankar123@gmail.com	• Electric Wire	hjdhjh	84368345478	4584568456854685478	₹200	Online Payment	7/16/2025, 10:16:43 PM
shankar123@gmail.com	• Laptop SSD	erwgtr	grgrt	gfrrfg	₹5000	Online Payment	7/16/2025, 10:12:36 PM
shankar123@gmail.com	• Laptop SSD	sdsd	243543254	488485434	₹5000	Online Payment	7/16/2025, 9:56:54 PM
shankar123@gmail.com	• Laptop SSD	bvbhewhjevh	7532532	433844	₹5000	Online	7/16/2025,

29°C Haze 01:13 19-07-2025

USER DATABASE

The screenshot shows the MongoDB Atlas Database Access interface. The left sidebar has a tree view with 'MERN stack' selected under 'Data Services'. The main area is titled 'Database Access' and shows 'Database Users' with one entry: 'shankardhar456789'. The entry details are: User 'shankardhar456789', Description empty, Authentication Method 'SCRAM', MongoDB Roles 'atlasAdmin@admin', Resources 'All Resources', and Actions with 'EDIT' and 'DELETE' buttons. A green button '+ ADD NEW DATABASE USER' is at the top right of the table. The bottom of the page includes a 'Database Access' section with 'Network Access' and 'Advanced' options, and a 'New On Atlas' section with '5' items. The footer shows system status 'All Good', copyright information for 2025 MongoDB, Inc., and various system icons.

User	Description	Authentication Method	MongoDB Roles	Resources	Actions
shankardhar456789		SCRAM	atlasAdmin@admin	All Resources	<button>EDIT</button> <button>DELETE</button>

System Status: All Good
©2025 MongoDB, Inc. Status Terms Privacy Atlas Blog Contact Sales

30°C Mostly cloudy

Search

13:36 29-06-2025

DATABASE

The screenshot shows the MongoDB Cloud interface for the 'Cluster0' database. The left sidebar includes sections for Overview, Services, Clusters (selected), and Security. The main area displays the 'test' database with its 'bookings' collection. The 'Collections' tab is active, showing 1 database and 5 collections. The 'test.bookings' collection has 10 documents. The document details are as follows:

```
_id: ObjectId('68602367e91ba520a059dd03')
createdAt: 2025-06-28T17:16:23.023+00:00
updatedAt: 2025-06-28T17:16:23.023+00:00
__v: 0

_id: ObjectId('6860238fe91ba520a059dd05')
createdAt: 2025-06-28T17:17:03.990+00:00
updatedAt: 2025-06-28T17:17:03.990+00:00
__v: 0
```

The interface also features tabs for Overview, Real Time, Metrics, Atlas Search, Query Insights, Performance Advisor, Online Archive, and Cmd Line Tools. A preview section for the Data Explorer is visible at the top right.

FUTURE SCOPE

- The Technician Assignment Manager device has the ability for vast destiny improvement to make it smarter, faster, and greater person-friendly. Below are some possible future scope regions and upgrades:--
-
- **AI-Based Job Assignment:** Use Artificial Intelligence to routinely assign jobs primarily based on technician performance history, vicinity, and skill suit.
- **Mobile Application Support:-** Launch mobile apps for technicians and customers to update fame, track development, and provide remarks in real-time.
- **GPS & Route Optimization:-** Integrate GPS monitoring to locate technicians and use path optimization for quicker carrier delivery.
- **Multi-Language Support:-** Add local language options to make the system greater handy across distinctive geographies.
- **Integration with IoT Devices:-** Use IoT sensors to car-generate service requests from smart home or business devices.
-

CONCLUSION

- The Technician Assignment Manager device plays a crucial position in streamlining service operations with the aid of ensuring efficient technician allocation, actual-time monitoring, and well timed resolution of customer service requests. By automating job task based on technician abilities, place, and availability, the machine reduces guide errors, delays, and mismatches. It additionally enables obvious communication among clients, technicians, and directors.
-
- Key benefits of the machine encompass:
-
- Improved carrier shipping and customer pleasure
- Real-time status monitoring of tasks
- Optimal usage of technician assets
- Reduced response time and better accountability

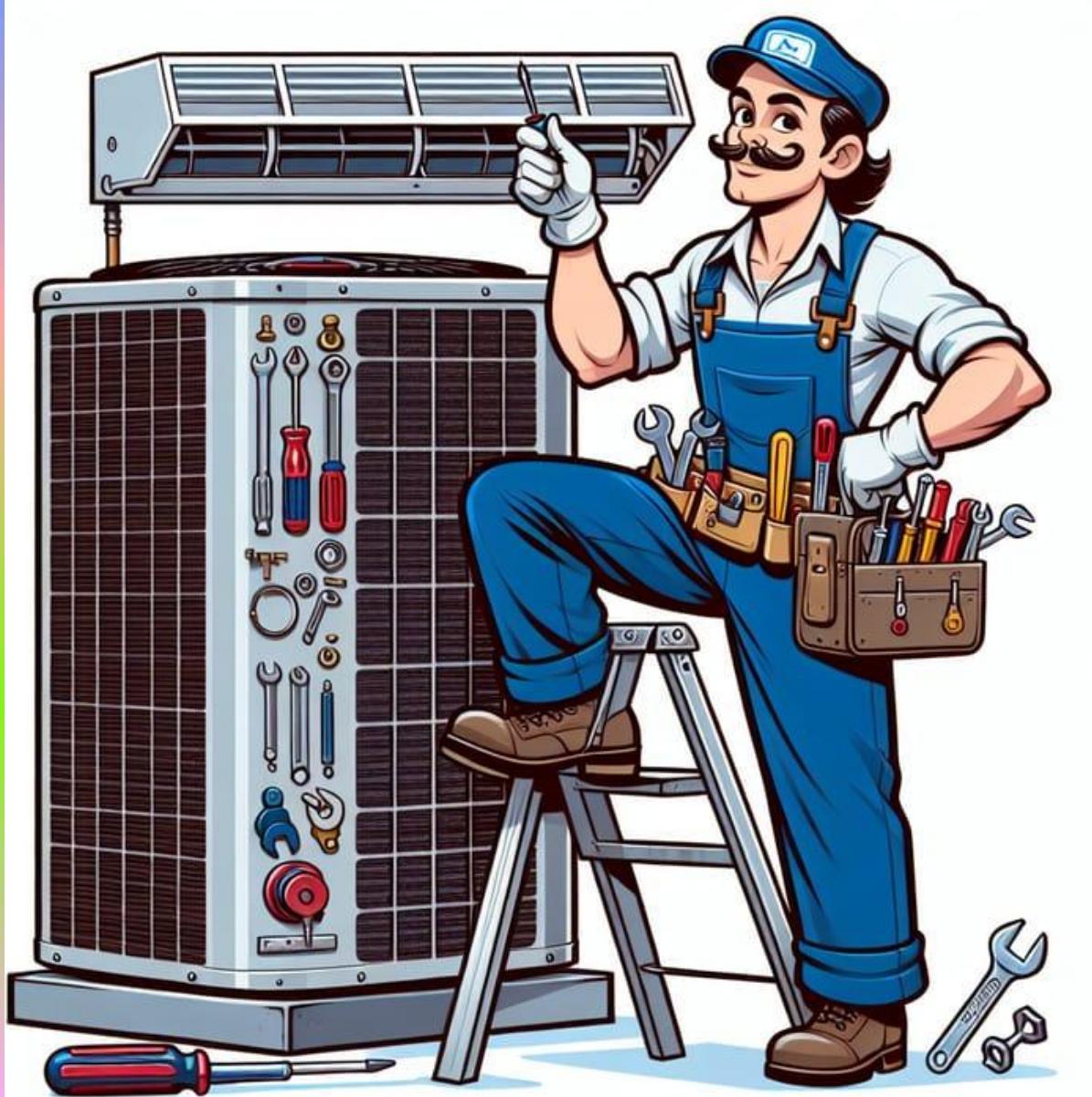
THE FINAL SUMMARY OF THE PROJECT

 Technologies Used
Frontend: React.js, Bootstrap
Backend: Node.js, Express.js
Database: MongoDB

 Admin Panel
-Manage technicians
-Assign tasks
-Track progress/status

 Technician Panel
-View assigned tasks
-Update job status
-Availability management

 Dashboard & Reports
- Task statistics
- Technician performance



THANK YOU