Title: Star Tech - Simplifying the Online Shopping Experience

Students Number:

S2200239041, s2200458025

Name: Mykyta Toropov, Rawan Gomaa

Introduction:

Star Tech is an innovative application designed to revolutionize the online electronic retail industry. With the exponential growth of the Internet and the widespread adoption of e-commerce, Star Tech capitalizes on the power of PostgreSQL, Express, React, and Node.js to create a user-centric platform that simplifies the shopping experience for customers. By offering a comprehensive product catalog, intuitive user interface, and advanced features, Star Tech aims to become the go-to destination for electronic enthusiasts seeking quality devices.

Features and Functionality:

1. User-friendly Interface: Star Tech boasts a clean and intuitive user interface that allows customers to easily navigate through the website. The interface is designed to provide a seamless experience, ensuring that users can find the products they need quickly and effortlessly.

2. Extensive Product Catalog: The database comprises various electronic devices, including phones, laptops, TVs, and headphones, organized into different categories. This wide range of products ensures that customers have a diverse selection to choose from, catering to their specific needs and preferences.

3. Detailed Device Information: Each device listing in Star Tech includes comprehensive details such as the device name, model, description, and URL. This information enables customers to gather in-depth knowledge about the products they are interested in, helping them make informed purchase decisions.

4. Reviews and Ratings: Star Tech incorporates a review and rating system, allowing customers to share their experiences and insights about the devices they have purchased. These reviews provide valuable feedback to other customers, helping them gauge the quality and performance of the products.

5. Price Comparison: With the PriceHistory table, Star Tech tracks the price changes of devices over time. This feature allows customers to compare the current prices with historical data, helping them identify any discounts or price fluctuations. By providing this information, Star Tech empowers customers to make cost-effective decisions.

6. Supplier Information: The application includes a Supplier table, which provides details about the suppliers associated with the devices. This information helps customers gain insights into the manufacturers and distributors, fostering transparency and trust in the purchasing process.

7. Cart Functionality: Star Tech incorporates a Cart table that allows customers to add desired devices and manage their shopping cart. The cart functionality enables users to keep track of their selected items, adjust quantities, and proceed to the checkout process seamlessly.

8. Order Management: The Order table enables customers to place orders for the devices they wish to purchase. This feature streamlines the transaction process, ensuring efficient order placement and providing customers with order details and delivery information.

9. Customer Functionality: The customer interface offers a range of features that empower users to make informed purchasing decisions. Customer users can perform the following tasks:

1. a. Login and Logout, Generate Profile: Customers have the ability to create an account, log in, and log out of the application. They can also generate and manage their profiles, providing essential information for a personalized shopping experience.
2. b. Search for Products: The application incorporates a robust search functionality, allowing customers to easily search for specific products based on their preferences, specifications, or desired features. This feature saves time and simplifies the browsing process.
3. c. Add to Cart: Once customers find their desired products, they can add them to the cart for easy management and purchase. The cart functionality enables customers to review their selected items, adjust quantities, and proceed to the checkout process seamlessly.

Database

In the context of databases, weak entities and strong entities refer to the relationship between entities based on their key attributes. A strong entity is an entity that has its own unique identifier or key attribute, while a weak entity depends on the existence of another entity to uniquely identify it. Based on your database design, let's identify the weak and strong entities.

From the provided information, we can identify the following entities and their relationships:

Entities:

- Admin
- Customer
- Product
- Relationships:
- Admin-Customer (Recursive Relationship)

Based on this information, we can determine the weak and strong entities:

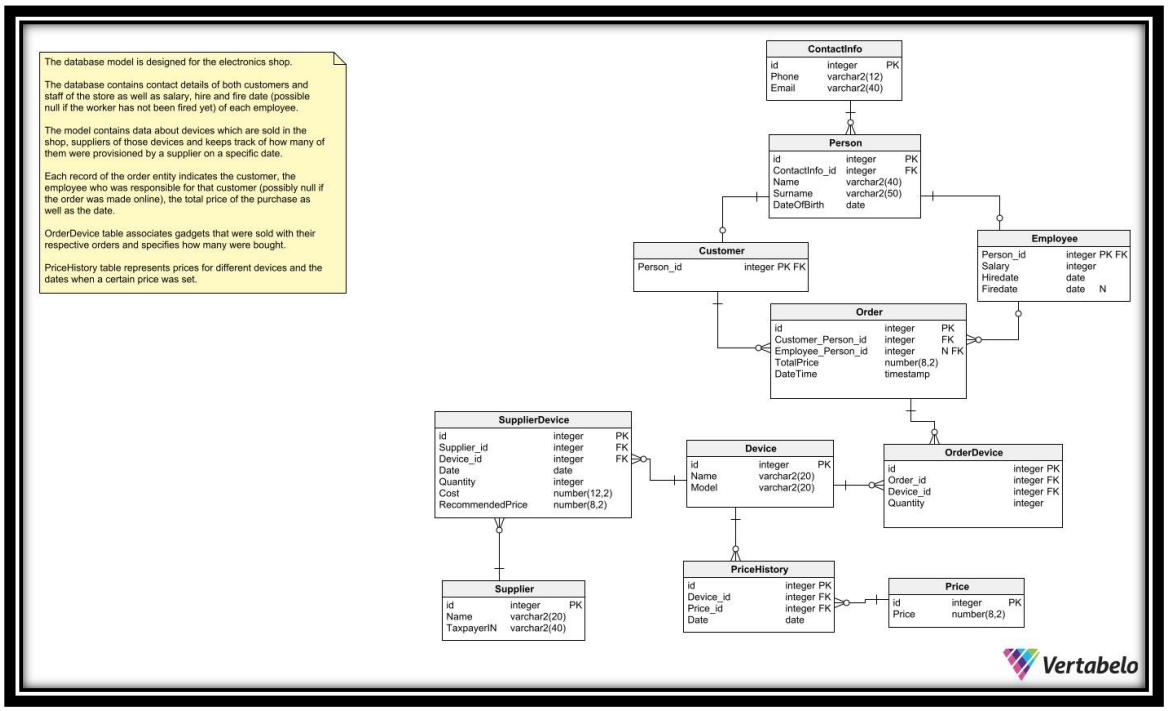
Strong Entity:

- Admin: The admin entity is a strong entity as it has its own unique identifier (such as an admin ID) and can exist independently in the database. The admin entity has attributes related to managing the application, such as adding, updating, and deleting products, checking payments, generating reports, and logging in as a customer.
- Customer: Similar to the admin entity, the customer entity is also a strong entity. It has its own unique identifier (such as a customer ID) and can exist independently. The customer entity has attributes related to user accounts, such as login information, profile generation, searching for products, and adding items to the cart.

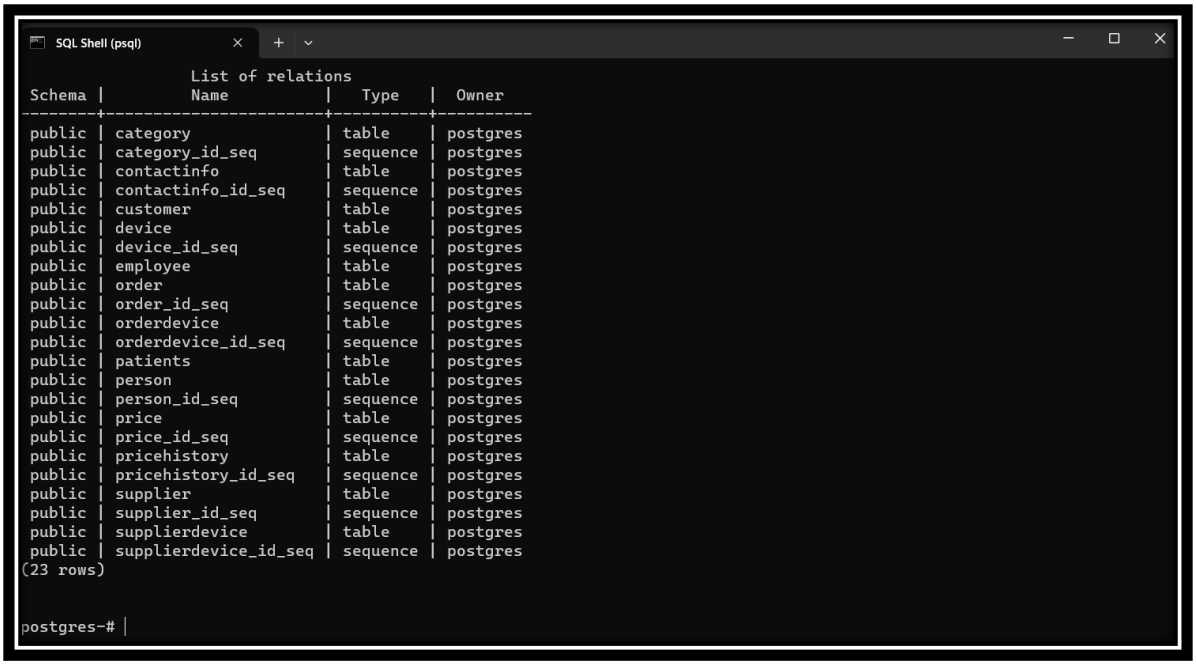
Weak Entity:

- Product: The product entity can be considered a weak entity as it does not have its own unique identifier. It relies on the existence of the admin entity to uniquely identify it. The product entity is associated with the admin entity as the admin can add, update, delete, and locate products in the database.
- It's important to note that the weak entity's identification is determined by its relationship with the strong entity (admin, in this case). The weak entity relies on the existence of the strong entity to establish its uniqueness and identity.
- By properly defining the relationships and identifying strong and weak entities, you can create an efficient and effective database design that accurately represents the structure and dependencies within your application.

ERD diagram



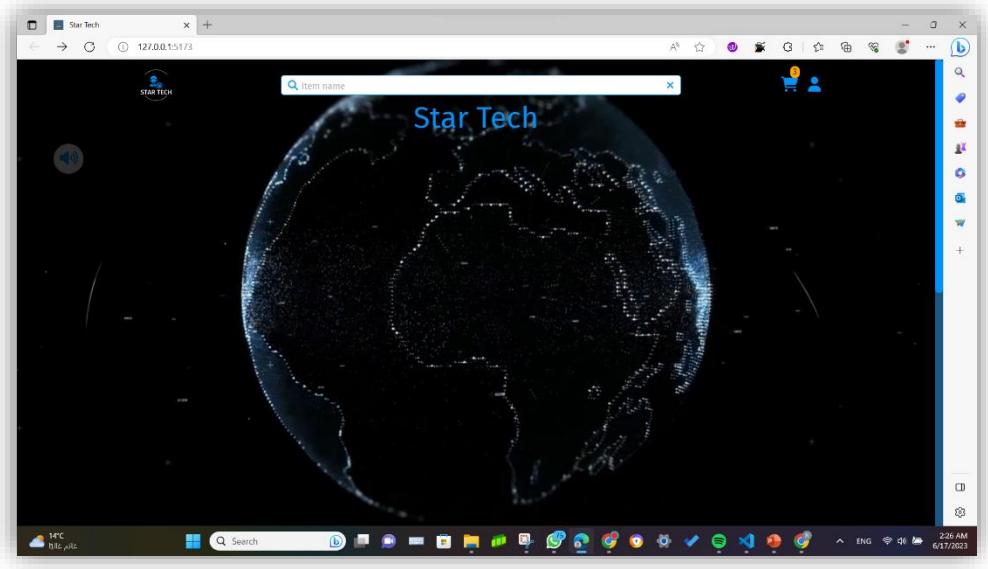
Data Base TABLES



Description About Pages In The Code

Home Page:

The home page serves as the landing page of your application. It provides an overview of your application's features and functionalities. This page typically includes elements such as a navigation menu, promotional banners, featured products, and any important announcements. Its purpose is to welcome users and guide them to different sections of the application.



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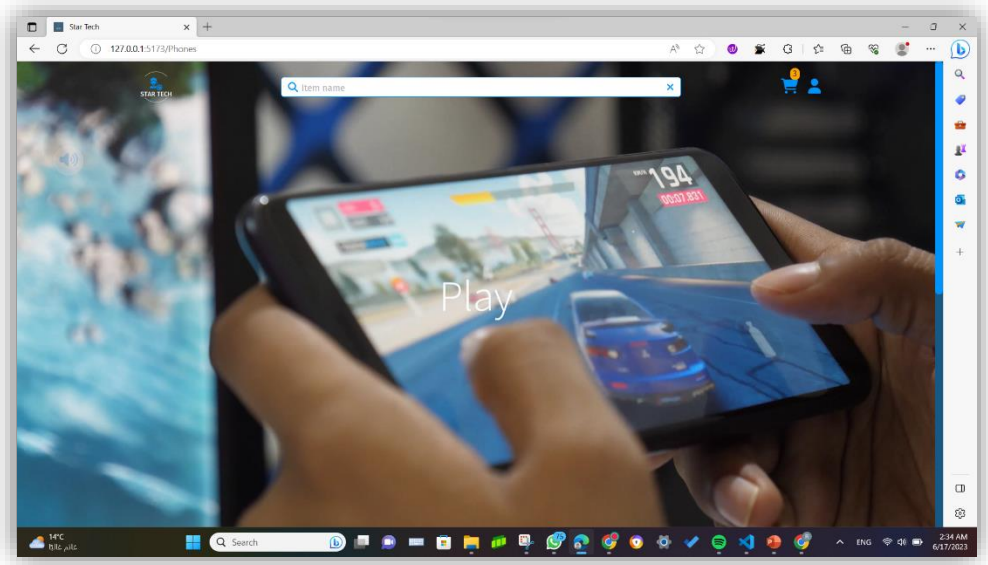
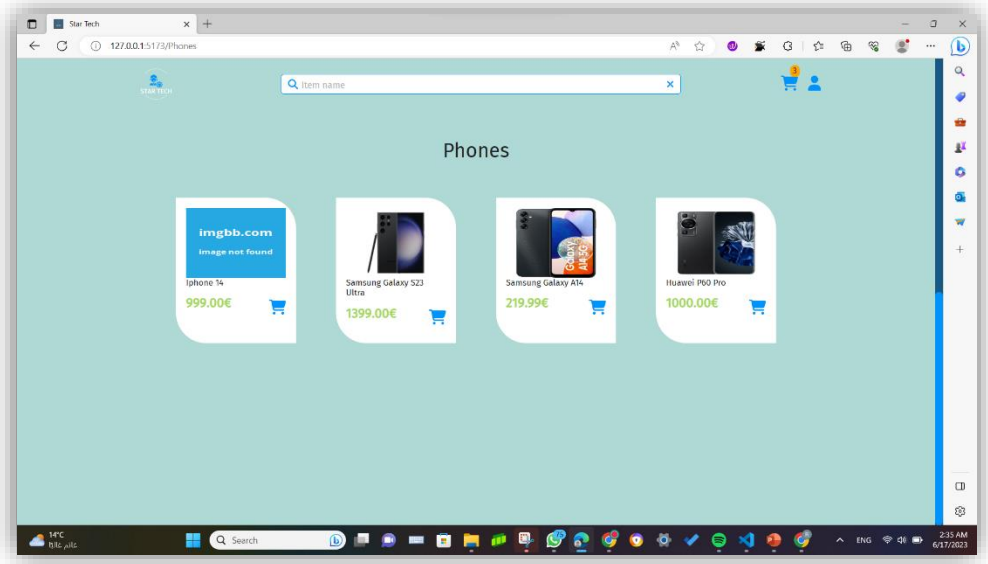
Devices Page:

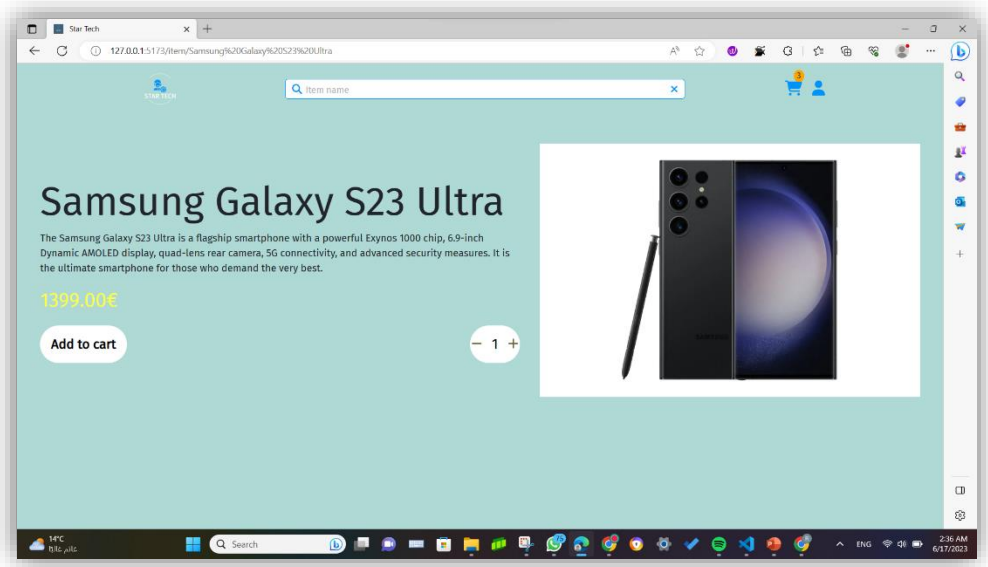
The devices page displays a list of available devices or products in your application. It provides users with an organized view of various devices, such as smartphones, tablets, or other electronic gadgets. Users can browse through the list, view device images, read descriptions, and access additional details for each device.





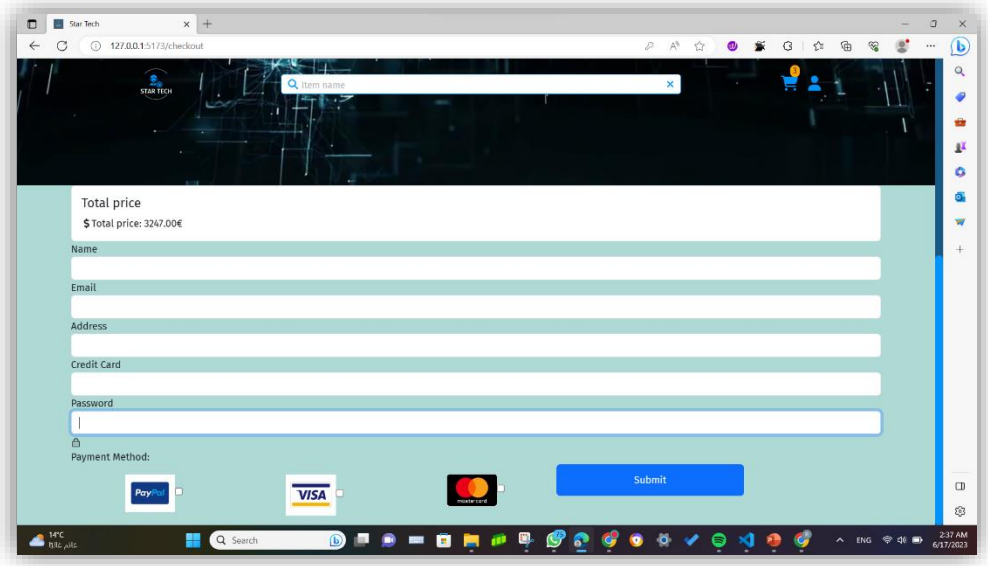
Device Details Page:

The device details page provides comprehensive information about a specific device selected by the user. It includes detailed specifications, images, customer reviews, pricing details, and any other relevant information. Users can make informed decisions about purchasing the device based on the details provided on this page.



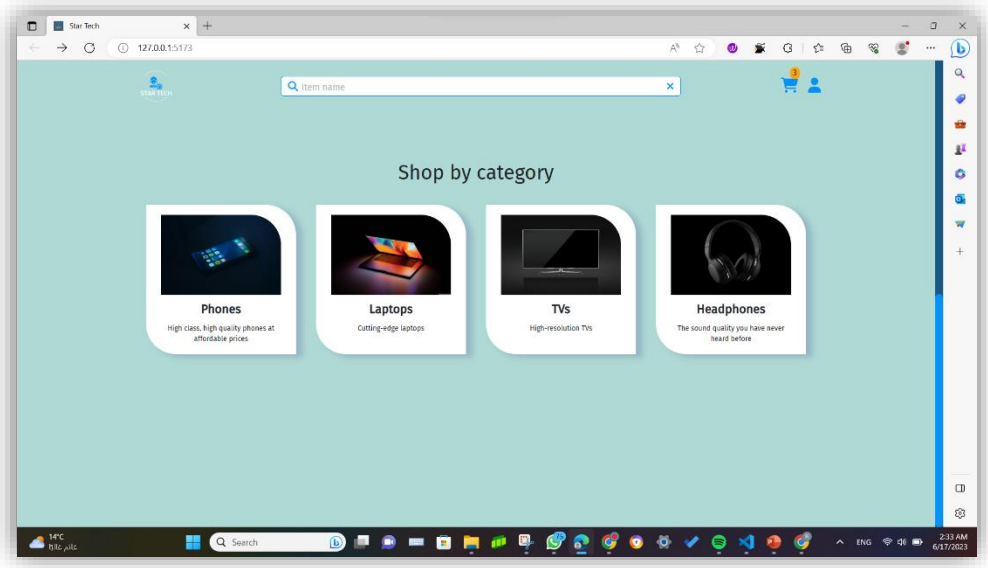
Checkout Page:

The checkout page is where users can review and finalize their purchases. It typically includes a summary of the selected items, their quantities, pricing details, and any applied discounts or promotions. Users can provide their shipping and billing information, choose a payment method, and proceed to place their order. The checkout page is crucial for the completion of a purchase transaction.



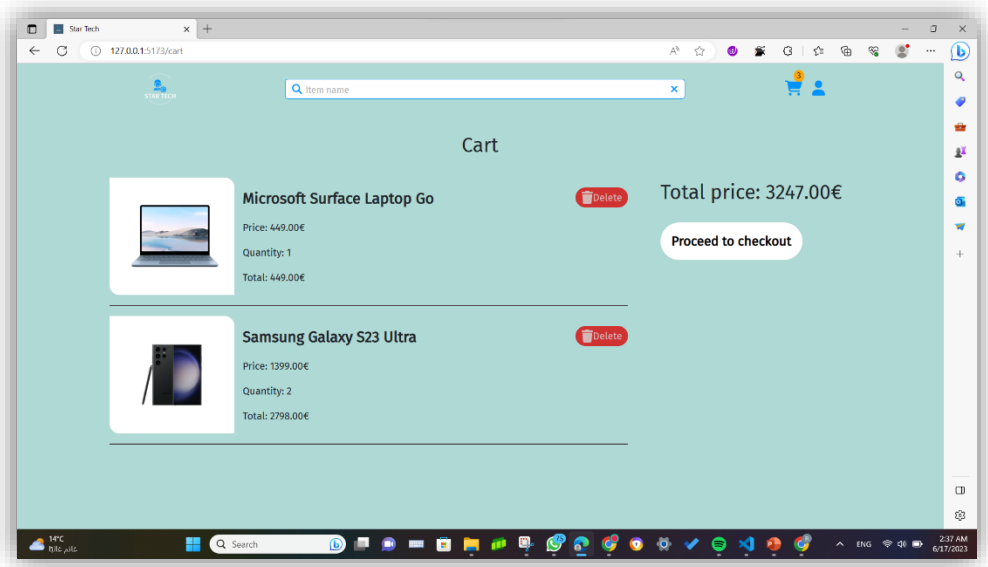
Category Page:

The category page organizes devices or products based on specific categories or classifications. It allows users to browse products within a particular category, making it easier for them to find items of interest. Categories can include options like "Smartphones," "Laptops," "Accessories," or any other relevant grouping of products.



Cart:

The cart page displays a summary of the items that users have added to their shopping cart. It shows the selected products, their quantities, and individual pricing details. Users can review the contents of their cart, modify quantities, remove items, or proceed to the checkout page to complete the purchase.



Personal Skills in the requested Topic:

Mykyta Toropov:

- Postgres: Mykyta is proficient in working with Postgres, an open-source relational database management system known for its robustness, scalability, and extensibility.
- Express: Mykyta has experience working with Express, a fast and minimalist web application framework for Node.js, used for building web applications and APIs.
- React: Mykyta possesses skills in React, a JavaScript library used for building user interfaces and creating interactive web applications.
- Node.js: Mykyta is knowledgeable in Node.js, a server-side JavaScript runtime environment used for developing scalable network applications.
- HTML/CSS: Mykyta is skilled in HTML and CSS, the foundational languages used for structuring and styling web pages.
- Java: Mykyta has experience in Java programming language, widely used for building enterprise-level applications.

- Canvas: Mykyta has learned Canvas, an HTML5 element used for rendering 2D graphics and animations within web browsers.

Rawan Gomaa:

- Postgres: Rawan has expertise in working with Postgres, an open-source relational database management system known for its robustness, scalability, and extensibility.
- Express: Rawan is experienced in working with Express, a fast and minimalist web application framework for Node.js, used for building web applications and APIs.
- React: Rawan is proficient in React, a JavaScript library used for building user interfaces and creating interactive web applications.
- Node.js: Rawan possesses skills in Node.js, a server-side JavaScript runtime environment used for developing scalable network applications.
- HTML/CSS: Rawan is skilled in HTML and CSS, the foundational languages used for structuring and styling web pages.

Conclusion:

Star Tech is an innovative database application that aims to simplify the online shopping experience for electronic devices. By leveraging the power of PostgreSQL, Express, React, and Node.js, Star Tech offers a user-friendly interface, a vast product catalog, and efficient features such as detailed device information, price comparison, and order management. With Star Tech, customers can enjoy a seamless and convenient shopping journey, saving time and effort while making informed purchase decisions. This application revolutionizes the way people shop for electronics online, providing a comprehensive platform for all their electronic device needs.

Future Work for Start Tech Project:

- Integration with ABIs: In the future, the project can be enhanced by integrating with Application Binary Interfaces (ABIs).
- Integration with Different Payment Methods: To provide a more versatile payment experience for users, the project can be enhanced by integrating with different payment methods.