



king Fahad university of petroleum and minerals

SWE 363 PROJECT

GiveHub

Team 29

Mohammed Almubarak 202024880

Hassan Alherz 201942010

Abdullah Aldakheel 201937130

Technology Stack

Our web development project leveraged a combination of modern technologies to create a robust and efficient web application. Here's an overview of each technology used:

React

We chose React for its component-based architecture, which promotes reusability and maintainability.

Key features include:

- Component-based architecture for efficient updating and rendering
- JSX syntax for simplified HTML writing
- Hooks for state management and React features.

Node.js

We try to use Node.js for its event-driven, non-blocking architecture, making it ideal for real-time applications.

Key benefits include:

- Single programming language for client and server-side development
- Rich ecosystem with npm for easy module integration.

Express.js

Express.js provided a flexible framework for building web applications.

MongoDB

We chose MongoDB for its schema-less design, scalability, and ease of integration with Node.js.

Key benefits include:

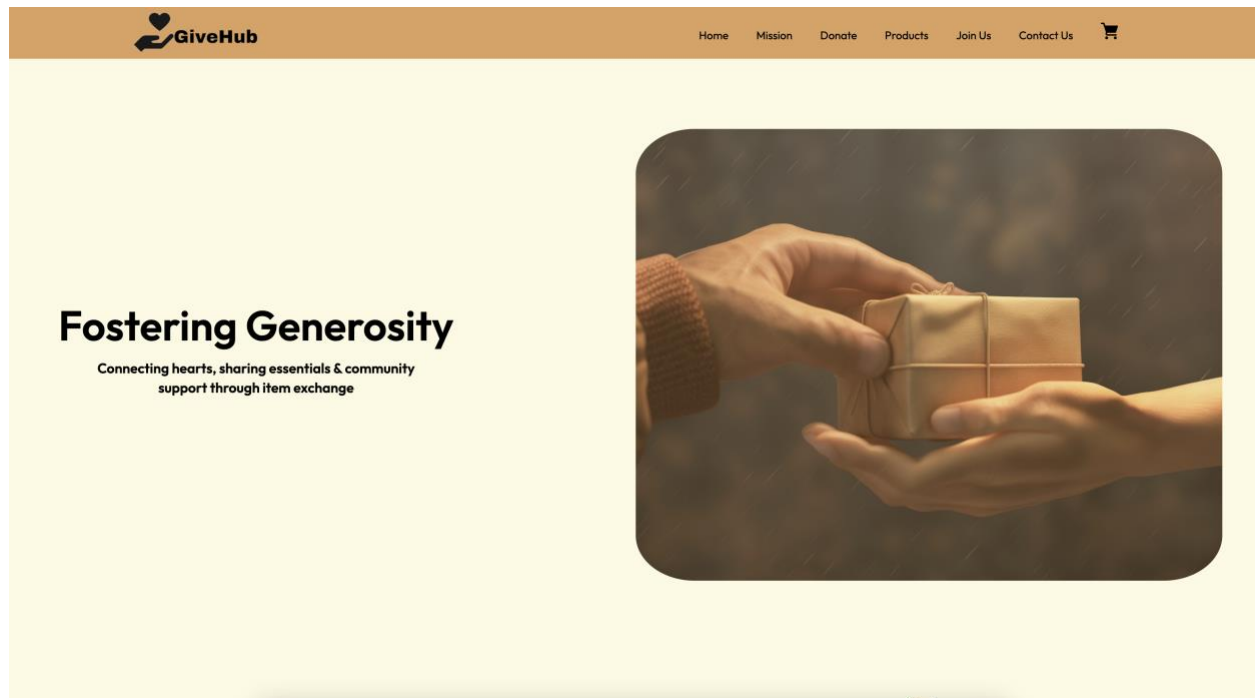
- Schema-less design for storing diverse data types.
- High performance for read/write operations.
- Integration and Workflow.

Our technology stack enabled a smooth development workflow:

- Frontend: React for a responsive and interactive UI
- Backend: Node.js and Express.js for server-side logic
- Database: MongoDB for efficient data storage and retrieval

This technology stack will help us to build a high-performance, scalable, and maintainable web application, addressing current needs and future expansion.

GUI Screen Shots:





A Realm of Impact

GiveHube Mission

At GiveHub, we connect generosity with need, fostering a culture of sharing. Join our community-driven initiative to address financial constraints and promote well-being through the exchange of unwanted but functional items.

Your generosity fuels the community.

Contribute to our mission by donating unwanted but functional items. Join us in making a difference.

Donate



Shop with Purpose

Search for what you need with 0 payment.

Products

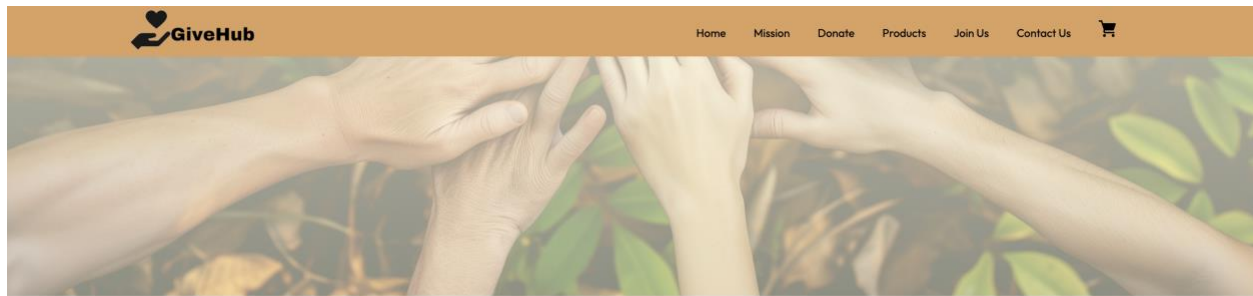


Join our item exchange community

Connect with donors and access essential items at no cost

Sign in

Sign up



Contact us

Feel free to reach out through contact form or find our contact information below

 givehub.kfupm@gmail.com

 +966562801270

 KFUPM, Bulding 22

Your name

Enter your name

Phone number

Enter your mobile number

Write your message here

Enter your message

Submit now



Sign Up

First Name:

Last Name:

Email:

Password:

Sign Up

Product's Details

Product Name:

Phone Number:

Category:



Click to Upload Image or Drag and Drop (Max. File size: 25 MB)

 vintage-chair-1920s-1.jpg

Add a Product to GiveHub!



Green Fancy Chair

Comfortable green chair perfect for modern offices.

Add to Cart



Green Fancy Chair

Comfortable green chair perfect for modern offices.

Add to Cart



Green Fancy Chair

Comfortable green chair perfect for modern offices.

Add to Cart



Green Fancy Chair

Comfortable green chair perfect for modern offices.

Add to Cart



Green Fancy Chair

Comfortable green chair perfect for modern offices.

Add to Cart



Green Fancy Chair

Comfortable green chair perfect for modern offices.

Add to Cart



Green Fancy Chair

Comfortable green chair perfect for modern offices.

Add to Cart



Green Fancy Chair

Comfortable green chair perfect for modern offices.

Add to Cart



Green Fancy Chair

Comfortable green chair perfect for modern offices.

Add to Cart



Green Fancy Chair

Comfortable green chair perfect for modern offices.

Add to Cart



Green Fancy Chair

Comfortable green chair perfect for modern offices.

Add to Cart



Green Fancy Chair

Comfortable green chair perfect for modern offices.

Add to Cart



Green Fancy Chair

Comfortable green chair perfect for modern offices.

Add to Cart



Green Fancy Chair

Comfortable green chair perfect for modern offices.


Add to Cart




Green Fancy Chair


Comfortable green chair perfect for modern offices.

Add to Cart



HomeMissionDonateProductsJoin UsContact Us





Comfort Chair

A comfortable chair perfect for your office or study.

Price: Free


Remove

Cart Summary


Total price: 0 SAR


Checkout

localhost:5173/cart



HomeMissionDonateProductsJoin UsContact Us





Your order has been submitted!

Back to Home

Source code:

```
1 import { BrowserRouter as Router, Routes, Route } from 'react-router-dom';
2 const App = () => {
3   return (
4     <Router>
5       <div>
6         <Navbar />
7         <Routes>
8           <Route path="/" element={
9             <div>
10               <Hero />
11               <Mission />
12               <Donate />
13               <Products />
14               <JoinUs />
15               <Contact />
16             </div>
17           } />
18           <Route path="/mission" element={<Mission />} />
19           <Route path="/donate" element={<Donate />} />
20           <Route path="/products" element={<Products />} />
21           <Route path="/join-us" element={<JoinUs />} />
22           <Route path="/contact" element={<Contact />} />
23           <Route path="/sign-in" element={<SignIn />} />
24           <Route path="/sign-up" element={<SignUp />} />
25           <Route path="/add-product" element={<AddProduct />} />
26           <Route path="/cart" element={<CartPage />} />
27           <Route path="/products-page" element={<ProductsPage />} />
28           <Route path="/confirmation" element={<ConfirmationPage />} />
29         </Routes>
30       </div>
31     </Router>
32   );
33 }
```

Main Scenario Description

The main scenario of the application involves a user navigating through the homepage, exploring various sections such as the mission statement, products, and donation options. The user can sign in or sign up to access personalized features

such as adding products for donation or making purchases. The cart and confirmation pages handle the buying process, providing a seamless e-commerce experience.

```
1  const Products = () => {
2    const navigate = useNavigate(); // Hook to get the navigate function
3
4    const handleProductsPage = () => {
5      navigate('/products-page');
6    };
7    return (
8      <div className='products'>
9        <div className='products-text'>
10          <div className='products-text-content'>
11            <h1>Shop with Purpose</h1>
12            <p>Search for what you need with 0 payment.</p>
13            <button className='products-button' onClick={handleProductsPage}>Products</button>
14          </div>
15        </div>
16        <div class="large-image"></div>
17        <div class="products-images">
18
19          <div class="square-image"></div>
20          <div class="square-image2"></div>
21        </div>
22      </div>
23    )
24  }
```

Main Scenario Description

In this scenario, the Products component serves as a key entry point for users looking to explore products available on the platform.

Upon landing on this section:

- Users are greeted with a headline and brief description encouraging them to shop with purpose.
- A prominently placed button labeled "Products" invites users to view the detailed products page.
- When the button is clicked, the user is navigated to /products-page, where they can browse all available products.

```

1  const Contact = () => {
2    return (
3      <div className='contact'>
4        <div className="contact-col">
5          <h3>Contact us <img src={msg_icon} alt="" /></h3>
6          <p>Feel free to reach out through contact form or find our contact information below</p>
7          <ul>
8            <li><img src={email_icon} alt="" />givehub.kfupm@gmail.com</li>
9            <li><img src={phone_icon} alt="" />+966562801270</li>
10           <li><img src={loc_icon} alt="" />KFUPM, Bulding 22</li>
11         </ul>
12       </div>
13       <div className="contact-col">
14         <form>
15           <label>Your name</label>
16           <input type="text" name = 'name' placeholder='Enter your name' required/>
17           <label>Phone number</label>
18           <input type="tel" name = 'phone' placeholder='Enter your mobile number' required/>
19           <label>Write your message here</label>
20           <textarea name="message" rows="6" placeholder='Enter your message' required></textarea>
21           <button type='submit' className='btn dark-btn'>Submit now</button>
22         </form>
23         <span></span>
24       </div>
25     </div>
26   )
27 }

```

Main Scenario Description

In this scenario, the Contact component serves as a key part of our web application, offering users a straightforward way to get in touch with the organization.

The component includes:

Contact Information:

Provides users with essential contact details, including email, phone number, and location, accompanied by relevant icons for better visual representation.

Contact Form:

Allows users to submit their queries or messages directly through the website. The form collects the user's name, phone number, and message, ensuring all necessary information is gathered for effective communication.

```
1  const CartPage = () => {
2    const navigate = useNavigate(); // Hook to get the navigate function
3
4    const handleCheckout = () => {
5      navigate('/confirmation');
6    };
7    // Function to handle removing items from cart
8    const handleRemoveItem = (itemId) => {
9      console.log(`Remove item with id: ${itemId}`);
10     // Add logic to remove item from state/context
11   };
12
13   // Calculate total price
14   const totalPrice = cartItems.reduce((total, item) => total + item.price, 0);
15
16   return (
17     <div className="cart-page-container">
18       <h3>Your Cart</h3>
19       {cartItems.length > 0 ? (
20         <ul className='cart-items-list'>
21           {cartItems.map(item => (
22             <li key={item.id} className='cart-item'>
23               <div className='item-image'>
24                 <img src={item.imgSrc} alt={item.name} />
25               </div>
26               <div className='item-details'>
27                 <h4>{item.name}</h4>
28                 <p>{item.description}</p>
29                 <p>Price: {item.price}</p>
30                 <button className='btn remove-btn' onClick={() => handleRemoveItem(item.id)}>Remove</button>
31               </div>
32             </li>
33           )]}
34         </ul>
35       ) : (
36         <p>Your cart is empty.</p>
37       )}
38       <div className='cart-summary'>
39         <h2>Cart Summary</h2>
40         <h4>Total price: 0 SAR</h4>
41         <button className='btn checkout-btn' onClick={handleCheckout}>Checkout</button>
42       </div>
43     </div>
44   );
45 }
```

Main Scenario Description

In this scenario, the CartPage component serves as the user's shopping cart view. It provides the following functionalities:

View Cart Items:

- Users can see a list of items they have added to their cart, including images, names, descriptions, and prices.
- Each item has a "Remove" button to allow users to remove unwanted items from their cart.

Cart Summary and Checkout:

- A summary section displays the total price of items in the cart (in this example, all items are free.)
- A "Checkout" button allows users to proceed to the confirmation page to finalize their purchase.

Learnings from the project:

Understanding User Needs

We identified the needs of donors and beneficiaries, prioritizing ease of use and intuitive navigation. We designed the platform to cater to users of all technical backgrounds.

Design and Development

We employed a user-centric approach, incorporating:

- Clear navigation and straightforward forms.
- Accessibility features for users with varying abilities.
- Streamlined processes for listing and requesting items.

Key Takeaways

- Empathy for users is crucial in designing an effective interface.
- Iterative design and testing are essential for refining the user experience.
- Responsive design and simplifying complex processes are critical for user engagement.
- Community engagement and sustainability are vital for maintaining user interest.

Summary of the above points

Our project demonstrated the importance of a user-centric approach in web development. By understanding user needs and designing an intuitive interface, we created a platform that fosters a sense of community and support. We learned the value of iterative design, continuous refinement, and accessibility, which will inform our approach in future projects.

Limitations of Our Work

Our project has some limitations that affect its completeness and functionality:

- Incomplete Back-End Development Integration issues: Difficulty integrating the front-end with the back-end, affecting dynamic data exchange.
- Functionality gaps: User authentication, data storage, and retrieval not fully implemented, limiting the platform's capabilities.

Direct Communication Between Donors and Beneficiaries

- No direct contact feature: No direct communication between donors and beneficiaries, making transactions and coordination challenging.
- Feedback and clarifications: Users may struggle to clarify item details, arrange pickups, or provide feedback without direct contact.

Lack of Item Categorization Filters

- Search efficiency: No advanced filtering options for categorizing items, making it difficult for beneficiaries to find specific items.

- User experience: Absence of filters leads to a less optimal user experience, especially with a large number of listed items.

Conclusion

While we've made progress on the front-end, our incomplete back-end development and missing features highlight areas for improvement. Addressing these limitations in future iterations will be crucial to enhance the platform's effectiveness and usability, ultimately achieving our goal of facilitating resource redistribution within the community.

What We Would Do Differently with More Time

If given more time, we would focus on:

Back-End Development

- Complete integration and testing to ensure seamless data exchange between front-end and back-end.
- Implement comprehensive user authentication and authorization mechanisms.

Enhanced Communication Features

- Introduce direct messaging and notification systems to facilitate communication between donors and beneficiaries.
- Implement advanced filtering and search capabilities to improve user experience.

Improved User Interface and Experience

- Refine the user interface and user experience through user testing and feedback.
- Ensure responsive design for various devices and screen sizes.

Additional Features.

- Implement item tracking and management features.
- Introduce a review and rating system for donors and beneficiaries.
- Develop and integrate additional features to enhance the platform's functionality.

Timesheet

Name/Phase	Proposal	Requirements	Design	Front-End	Back-end
Mohammed	All the document	All the document	Home page	Home page & Converting members' work from pure HTML and CSS into React components.	Built a Node.js server with Express and MongoDB, creating APIs for product management and file uploads.
Hassan	Storyboard	Wireframe	Sign in/out pages	Sign in & out pages in pure HTML and CSS	Implemented a React sign-up form with state management and API integration for user registration.
Abdullah	Slides	slides	All other pages	Other pages in pure html and css	Nothing

Name/Phase	Demo	Final Report
Mohammed	Introduction	80%
Hassan	Live demo	10%
Abdullah	Slides and Conclusion	10%