Atlantic Zambezi Global

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Atlantic Zambezi Global

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Submitted in Partial Completion of the
Requirements for Commonwealth Honors in Computer Science

Bridgewater State University

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Thesis Report

Website name: Atlantic Zambezi Global

Online Delivering System

Link: https://atlanticzambeziglobal.herokuapp.com
Introduction of the Project Online Delivery System

I developed an “Online Delivery System” to help people overcome the problems faced on purchasing products. This project will help people to eliminate some hardships faced by the existing system in my native country. I designed this project for a particular need of the current population of Guinea-Bissau.

I included error handlers in the application as much as possible to avoid errors when users are entering their data. This application provides an error message if the user data is invalid.

As a user, you do not need to have some knowledge to use the website. I provided an interactive and understandable user-friendly interface.

The “Atlantic Zambezi Global” has a managing system, such as Categories, items, orders, Payments, and Confirm Orders by the user. Based on the need of the population.

Abstract Of Online Delivery Ordering System

The purpose of “Atlantic Zambezi Global” is to offer an online marketplace that does not exist in my home country. People in Guinea struggle when they want something that does not exist in the region. The current way they get the product they want:

1. Either by someone getting the product for them
2. By traveling to get the product themselves.

I created an online delivery system that will help people get their basic needs products at home and spend less.

The Objective of the Project of Delivery Ordering System.

In Guinea, there are not a lot of opportunities 60% of people are unemployed, and most of them live with their families. People travel a lot to help sustain their families. Most of the products that people consume in Guinea come from Senegal or Guinea-Conakry, etc., and 90% of the transactions are cash.
The objective of this Delivery Ordering System is to improve people's daily lives. Instead of traveling to buy a product, the product will come to them. It will cost less, is easy to access, and is fast for users to get the products at home.

**Functionalities provided by Online Delivery Ordering System**

Provides users with a variety of categories to choose from
Such as desktops, laptops, tablets cellphones TVs, speakers, monitors, and cameras
It provides search facilities based on the user’s necessities.

Online Delivery Project Overview:

I used different Frameworks.
The framework is the structure that tells what kind of programs I used for this project. Building a website like this required a different framework. I build a full-stack website. Full stack in engineering means the combination of the front-end and back-end.

- **React.js as my front-end**: is what handles the UI (User Interface) What you see and interact with directly. The front end runs on top of the back end. Examples of the front end are buttons, the features on the website, images, etc. See the front end as the body of a car for any car that runs it needs a motor.

- **Node.js as back-end**: is what makes things happen in a program, it is the engine that runs the program. It is where we write the code for the server side.

- **React Bootstrap: for CSS**: is the styling of the project it is what gives the project a great look. Bootstrap has a responsive and fluid grid system that scales up to 12 columns.

- **PostgreSQL Database**: is an open-source object-relational database system that uses and extends the SQL language. I used this project to store and save the data.
**User Interface Design**
Show the primary information architecture of the website.

**Database Schema**
The schema defines how the data is organized in the relational database.
- **Product schema**: this is how I created the schema for my product on the website.

```typescript
type Shop {
    name: String!
    description: String!
    coverImg: String!
    products: [Product]!
    ownerId: String!
}

type Product {
    name: String!
    description: String!
    price: Float!
    category: String!
    shop: Shop! @relation
}
- **User schema**: represents what are the information that the user will be providing when creating a new account.

```sql
CREATE TABLE atlantic_users(
  id SERIAL PRIMARY KEY,
  email VARCHAR(200) NOT NULL UNIQUE,
  name VARCHAR(100) NOT NULL,
  password VARCHAR NOT NULL,
  re_enterPassword VARCHAR NOT NULL
);
```

**Screenshot from Miro board:**

**Database Name:** dabanaintenque  
**Table Name:** atlantic_users

<table>
<thead>
<tr>
<th>atlantic_users</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>email</td>
<td></td>
</tr>
<tr>
<td>name</td>
<td></td>
</tr>
<tr>
<td>password</td>
<td></td>
</tr>
<tr>
<td>re-enter_password</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>atlantic_users</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>email</td>
<td><a href="mailto:Dintenque@atlantic.co">Dintenque@atlantic.co</a></td>
</tr>
<tr>
<td>name</td>
<td>Dabana Intenque</td>
</tr>
<tr>
<td>password</td>
<td>Djorge!$77!</td>
</tr>
<tr>
<td>re_enter_password</td>
<td>Djorge!$77!</td>
</tr>
</tbody>
</table>
Packages Used in Online Delivery System:

We used packages in the project to help run, secure, support, etc... in the project and to add a different future and functionality to the program.

1. **npm install yup**: As a developer, I want to use validation for authentication. I used yup package to accomplish that goal.

2. **npm install @chakra-ui/react** is a modular and accessible component library that provides the building blocks we need to build react applications.

3. **npm install bcrypt pg**: is a password-hashing function.

4.

5. **npm install dotenv**: is a zero-dependency module that loads environment variables from a .env file into process.env.

6. **npm install express-session** is a middleware module in Express.js that allows you to create sessions in your web application.

7. **npm install ioredis connect-redis**: let you connect Redis with Nodejs. Also, use Redis to prevent the application from being hacked by using limits.

8. **npm install --save cors**: it supports secure cross-origin requests and data transfers between browsers and servers.

9. **npm install body-parser** is an HTTP request body that usually helps when you need to know more than just the URL being hit.

10. **npm install helmet** is middleware-base technology that improves security by safeguarding HTTP headers returned by a Node.js app.

11. **npm install express-rate-limit --save** is a rate-limiting middleware for ExpressJs. It limits repeated requests to public APIs and/or endpoints, such as password resets, user logins, etc.
Screenshot of the Project Online Food Delivery System
**Home Page:**
The first thing that shows up when users visit the Atlantic Zambezi global website. The home page provides users with a variety list of categories to choose from, as we can see in the screenshot below.
**Sign Up:**
Users can create a new account if they are new to the website. The authentication process is working perfectly. The error-checking handler shows the message when the credentials do not match the format or when the username exists, and when the password and re_enterPassword field does not match.

![Sign Up Form](Image)
**Login:**
Only authorized users are allowed to log in. The error handlers will check if the email exists in the database and if the password matches the email.

To order a product on the website. Login credentials are required which means users must signup first before trying to log in.
After checking the credentials and users’ credentials are correct. The user's full username will show in the top right corner of the page. The user’s information will be saved in the database for the next time user visits the site.
**Conclusion:**
This project is hosted in the Heroku cloud. I worked on this thesis for two semesters it is one of the treasures I encountered at Bridgewater State University. Making something like that has always been my dream and goal. After graduation, I am happy to show the world what I have learned in college. I will continue working on this website and make it a worldwide website if Lord God willing. I am thankful to my mentor Dr. Jung for supporting me and showing me better ways while developing this website and thank you to the honor department for helping and supporting me.
I want to finish by saying I found my purpose thanks to the honors thesis.

**References:**

Authentication: [https://www.youtube.com/watch?v=z20ZBv7HLJU](https://www.youtube.com/watch?v=z20ZBv7HLJU)


Stripe: For payments and checkout [https://stripe.com/en-ca](https://stripe.com/en-ca)