# JS Back-End Exam – Crypto Trade

## 1. Exam Rules:

1. You have **4 hours**
2. When you are ready, delete the ***node_modules*** folder, make sure all dependencies are listed in the ***package.json*** file and submit your archiving project.
3. You are provided with **HTML & CSS** resources
4. You may **add attributes** (such as **class** and **dataset**), but it is forbidden to **change existing** attributes (such as **class** and **id**)
5. You may **change "href"** attributes on links and add/change the **method** and **action** attributes of HTML Forms.
6. Use **Express.js** as a back-end framework
7. Use **MongoDB** as a database with **mongoose**
8. You can use whatever **view engine** you like (**express-handlebars**, EJS, Pug, etc.)
9. Use **bcrypt for hashing the password**
10. The application **must start** from the file **"index.js"** on port **3000**
11. It is **forbidden** to **use React**, **Vue**, **Angular,** etc.
12. **Only the last submission will be evaluated!**

## 2. Application Overview

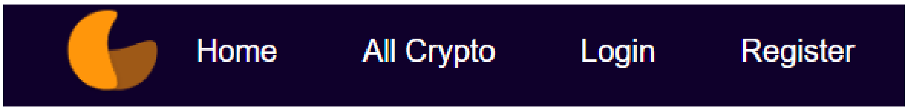
Get acquainted with the provided **HTML and CSS** and create an application for the **crypto trade**.

The visitors can **view** the **Home page** and **All Crypto** catalog with available offers. They can also **register** with an **email**, **username**, and **password**, allowing them to create their offers for crypto trade and **buy crypto** (if the **current user** is **not** the **owner of the crypto** offer). Authors can edit or delete posts at any time.

## 3. Functional Requirements

### Guest (not logged in)

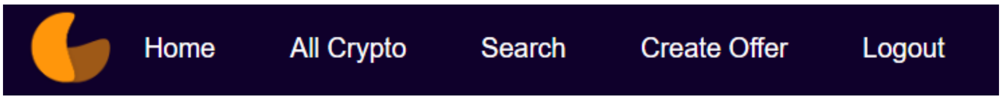
**Guest** navigation example:



The **application** should provide **Guest** (not logged in) users with the functionality to **Login**, **Register**, and **view** the **Home** page, **All Crypto** page, and the **Details** page.

### Users (logged in)

**User** navigation example:



The **application** should provide **Users** (logged in) with the functionality to:

- **View the Home page and all other pages with logged-in navigation**
- **View All Crypto page**

- **Create a new crypto offer [Create Offer]**
- **Access crypto details page [Details]**
- **Buy crypto (**if the **current user** is **not** the **owner of the offer)**
- **Delete or Edit the offer depending on the user's authentication (only for the owner of the current offer for crypto)**

## 4. Database Models

The **Database** of the **Crypto Trade** application needs to support **two entities**:

### User

- **Username - string (required),**
- **Email - string (required),**
- **Password - string (required)**

### Crypto

- **Name - String (required),**
- **Image: String (required),**
- **Price: Number (required),**
- **Crypto Description: String (required),**
- **Payment Method: String (crypto-wallet, credit-card, debit-card, paypal) required,**
- **Buy a crypto - a collection of Users (a reference to the User model)**
- **Owner - object Id (a reference to the User model)**

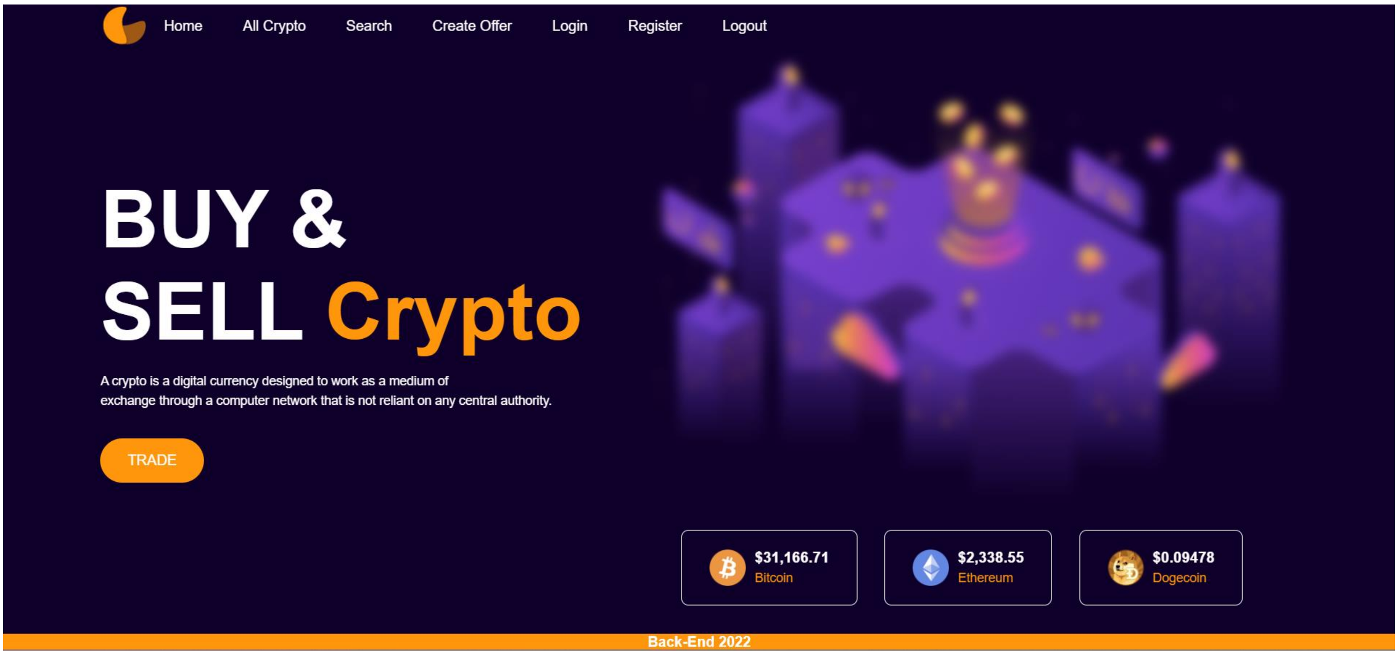
**Note:** When a user **buys crypto**, their **id** is added to that collection (**Buy a crypto**)

Implement the entities with the **correct data types**.

## 5. Application Pages (80 pts)

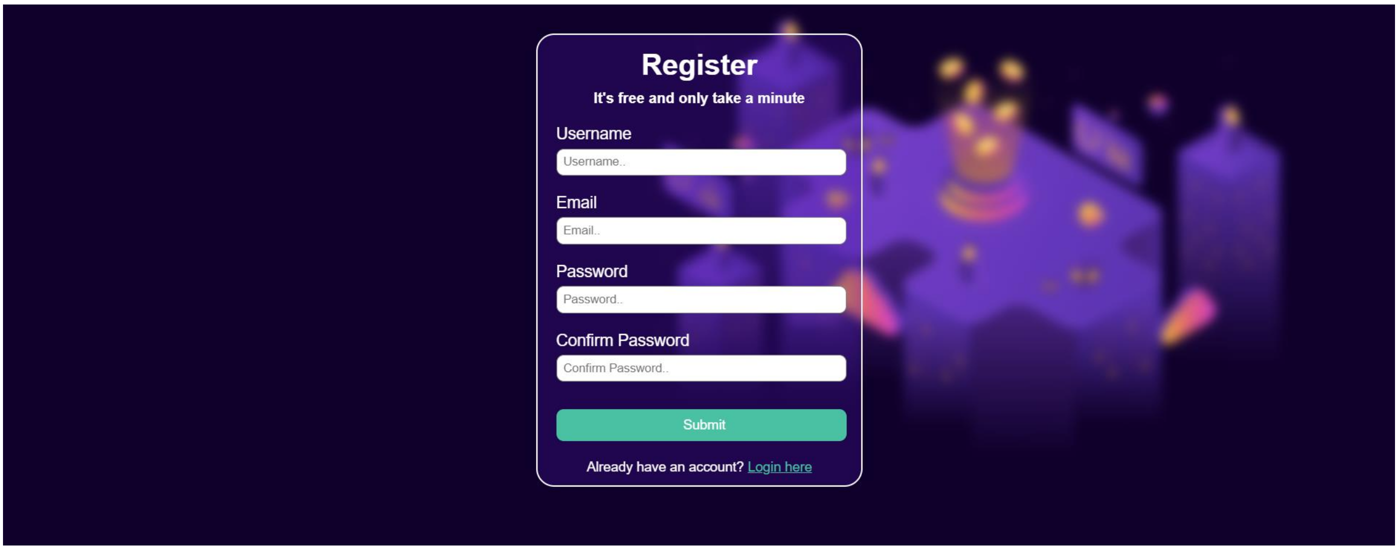
### Home Page (For logged in users and logged-out users)

Visualize **static home page**.


Home
All Crypto
Search
Create Offer
Login
Register
Logout
BUY &
SELL Crypto
A crypto is a digital currency designed to work as a medium of exchange through a computer network that is not reliant on any central authority.
TRADE
$31,166.71
Bitcoin
$2,338.55
Ethereum
$0.09478
Dogecoin
Back-End 2022

## Register Page (Logged Out User)

**Register** a user inside the Database with a **username, email, and password**. **Password** inside the **Database** must be hashed (**use bcrypt**), and both passwords **must match**! After successful registration, you should **redirect** to the **Home page**.



Register

It's free and only take a minute

Username

Username..

Email

Email..

Password

Password..

Confirm Password

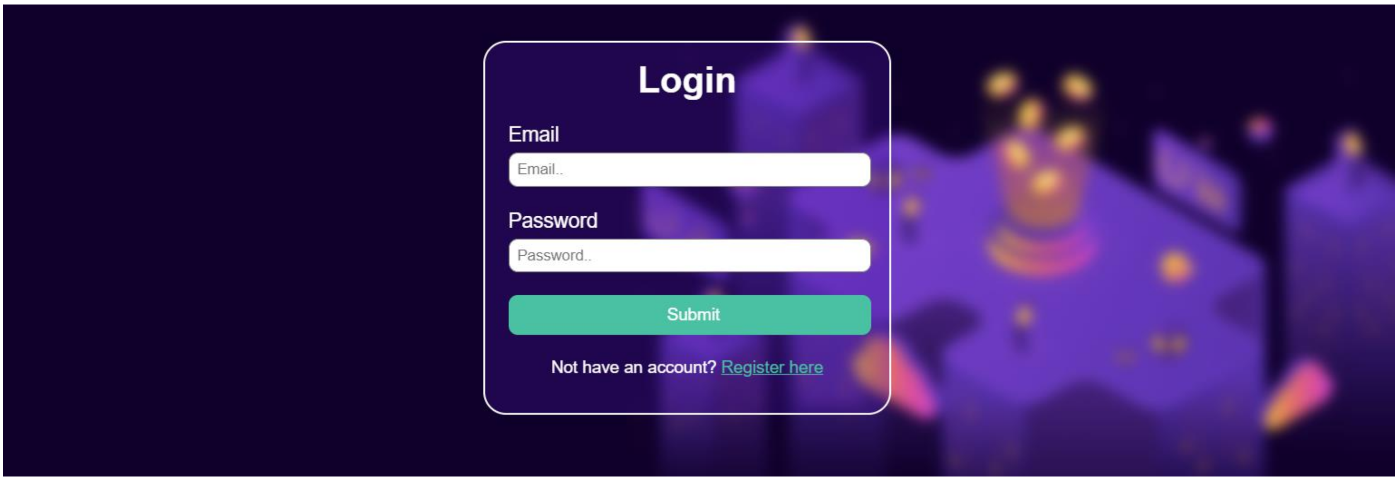
Confirm Password..

Submit

Already have an account? Login here

## Login Page (Logged Out User) - (5 Pts)

Logging an already registered user with the correct **email** and **password**. After successful login, you should **redirect to the Home page.**



Login

Email

Email..

Password

Password..

Submit

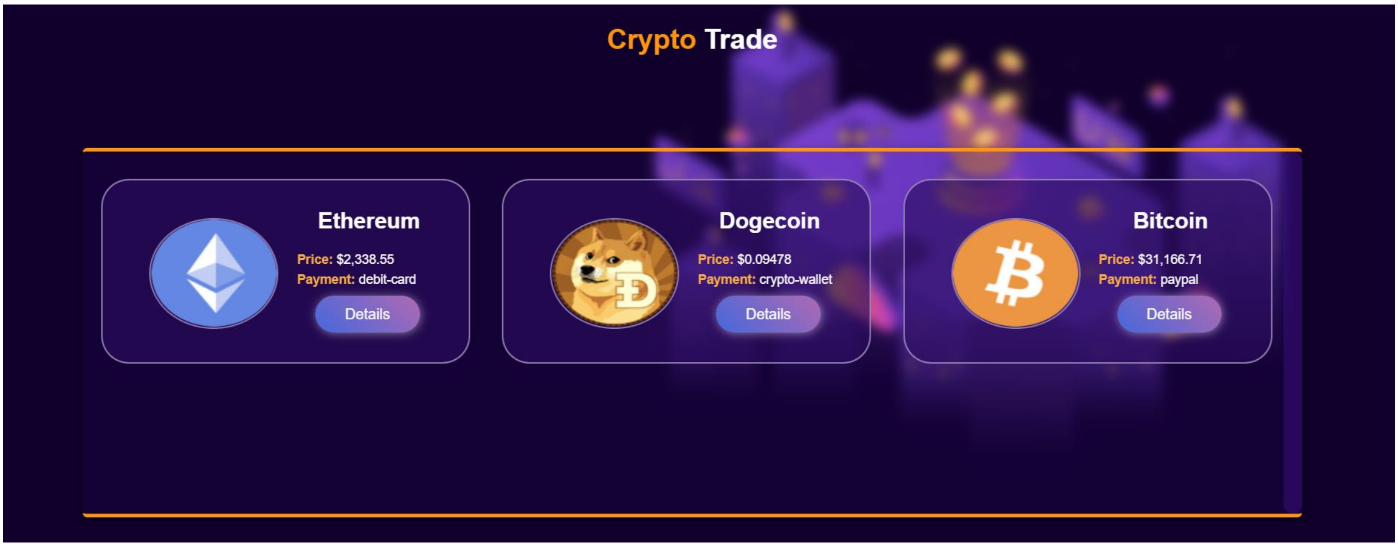
Not have an account? Register here

## Logout (logged in user)

The logout action is available to **logged-in** users. Upon success, clear any session information and **redirect** the user to the **Home** page.

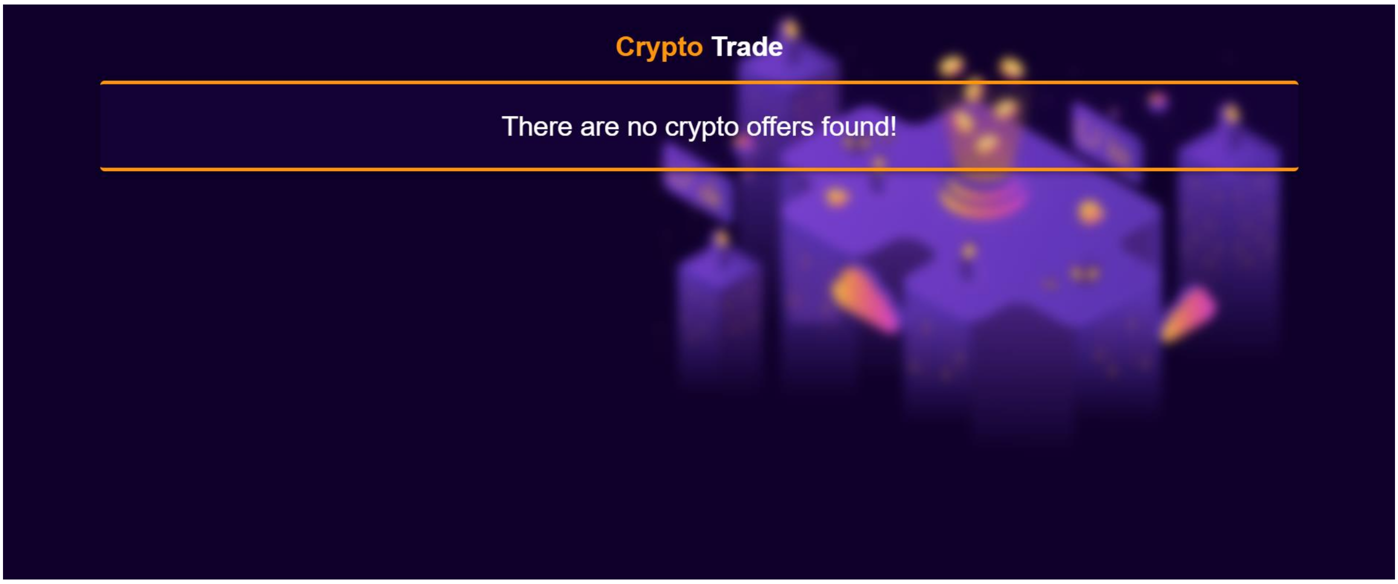
## Crypto Catalog (For logged in users and logged out users)

List all crypto offers. Each offer must display information about the **crypto image**, the **name**, the **price**, **payment,** and a button for **details** about the **specific crypto**. As in the picture below:



[**Details**] button should be a link to the **details page** for the current crypto.

If there are **NO** crypto offers in the Database yet, display **`"There are no crypto offers found! "`**



## Details Page - (for logged in users and logged out users)

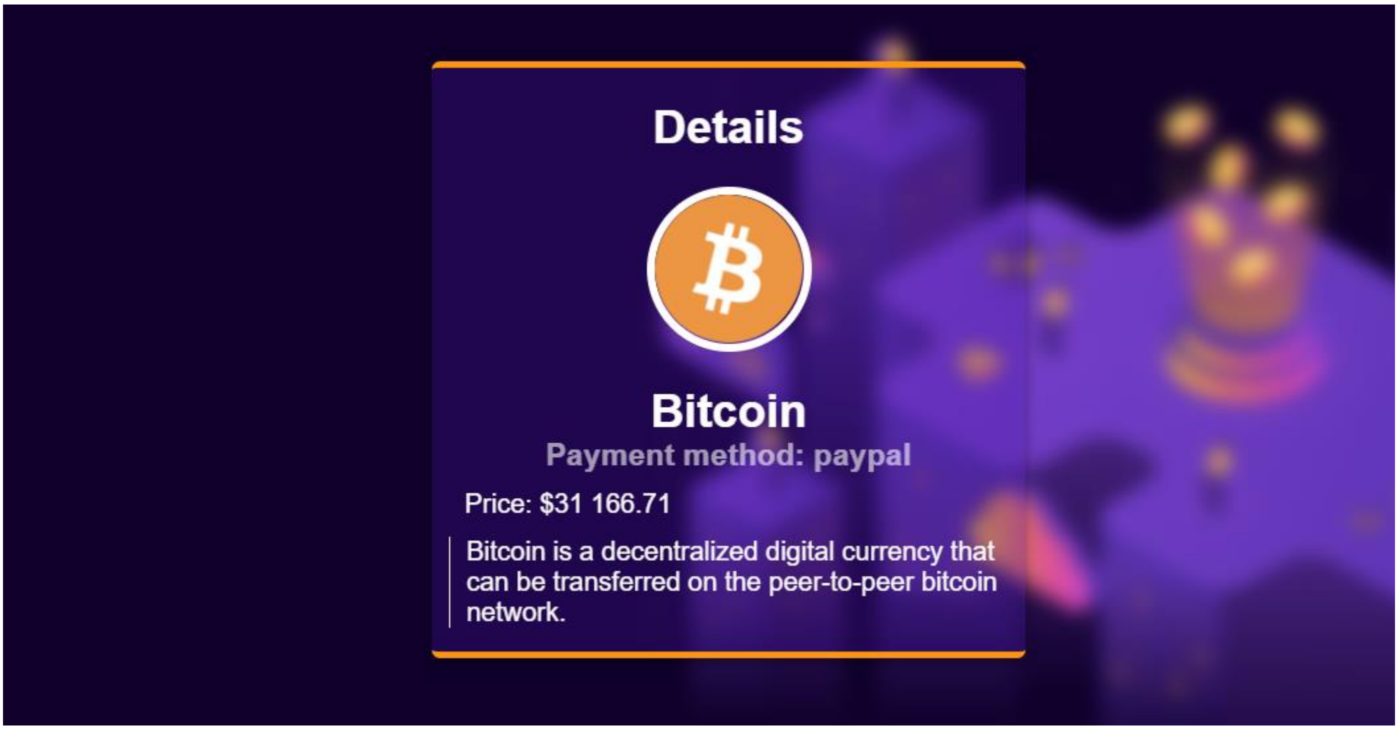
All users should be able **to see details**. Clicking the **Details button** on the crypto card should display the details page. If the currently registered user **is the creator** of the crypto offer, the **Edit** and **Delete** buttons should be displayed. Otherwise, they **should not be available**.

Information about the crypto:

- **Name**
- **Payment method**
- **Price**
- **Description**
- **Buttons** (Depending on the status of the currently logged in user)

## Details Page (logged out users)

If there are **no logged**-in users, **no buttons** should be displayed.



Details

Bitcoin

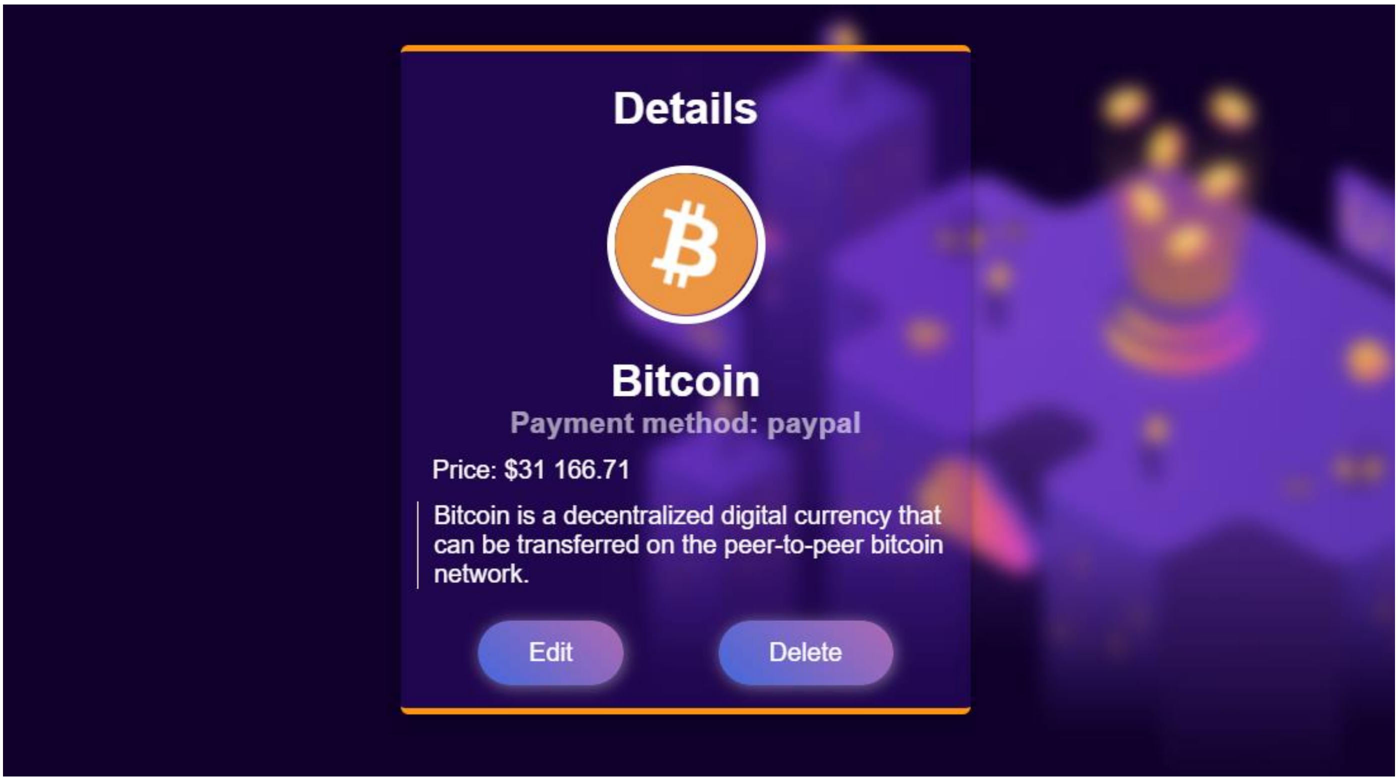
Payment method: paypal

Price: $31 166.71

Bitcoin is a decentralized digital currency that can be transferred on the peer-to-peer bitcoin network.

## Details Page (logged in user and creator of the current offer)

If the **currently logged-in** user is the **owner** (the user who **created the crypto offer**), he should see the **[Delete]** and **[Edit]** buttons.



Details

Bitcoin

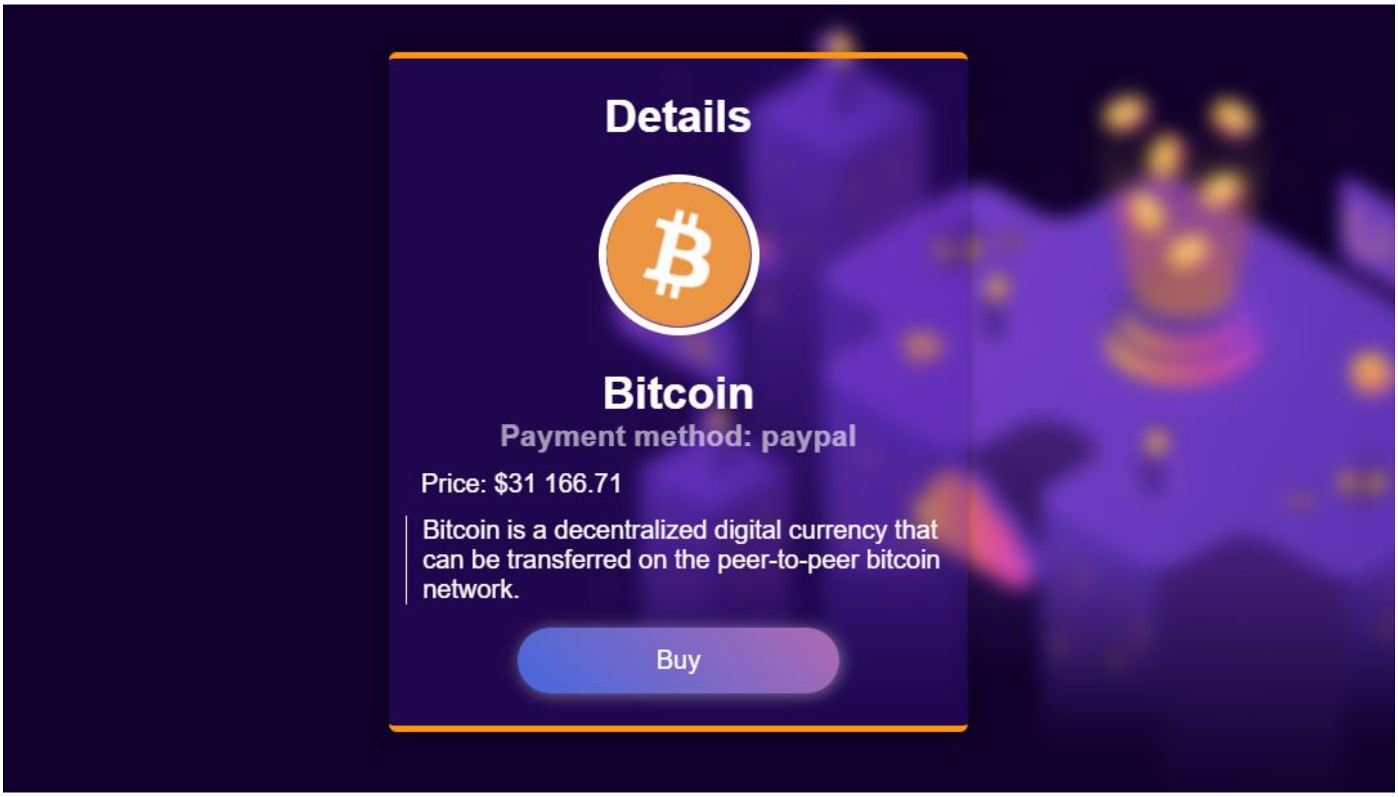
Payment method: paypal

Price: $31 166.71

Bitcoin is a decentralized digital currency that can be transferred on the peer-to-peer bitcoin network.

## Details Page (logged in user with available places)

If the currently logged-in user is **not the owner** (a user who is not the creator of this crypto offer) and has not bought that crypto, he should see a **buy** button.



Details

Bitcoin

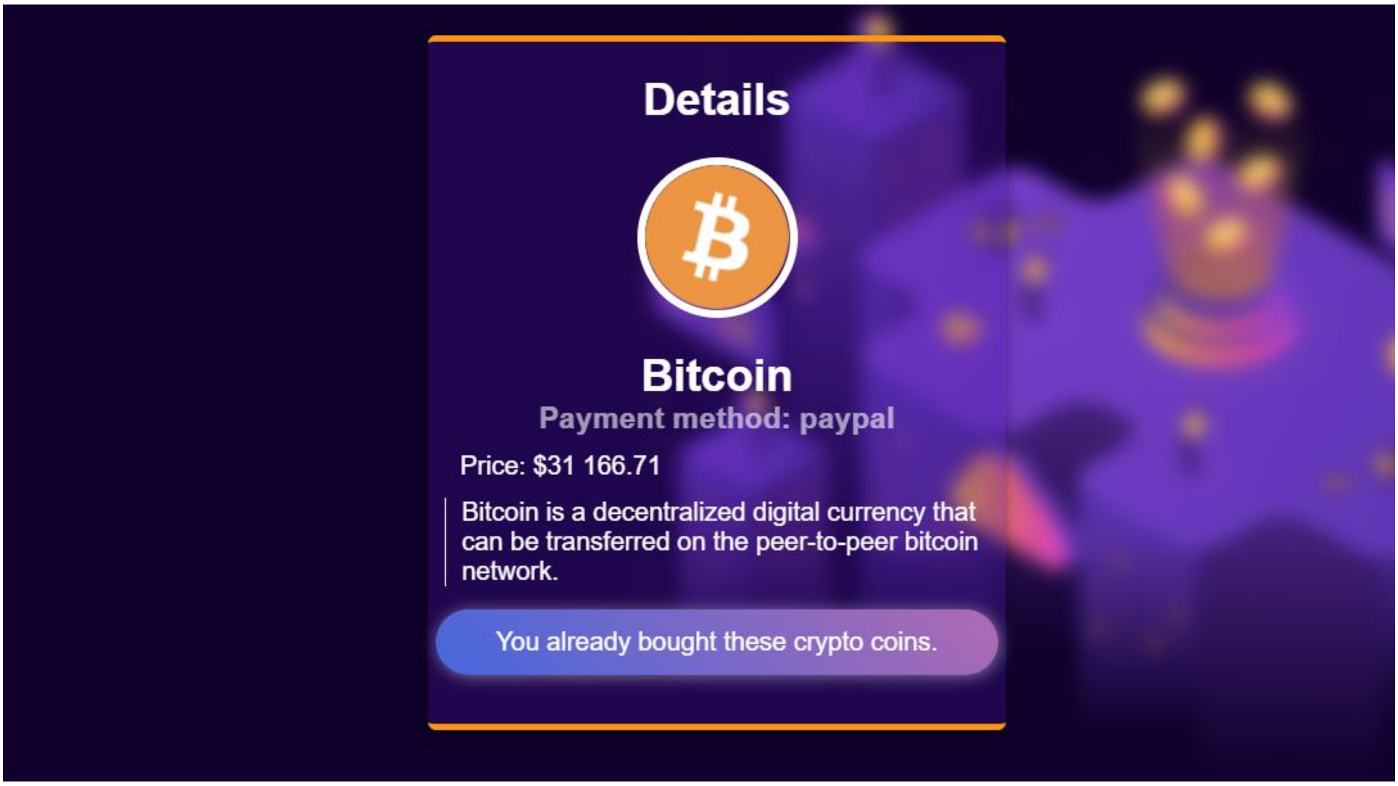
Payment method: paypal

Price: $31 166.71

Bitcoin is a decentralized digital currency that can be transferred on the peer-to-peer bitcoin network.

## Details Page (logged in user already bought crypto)

If the currently logged in user **is not the owner** and has **already bought crypto**, he should see
**[You have already bought this crypto].**



Details

Bitcoin

Payment method: paypal

Price: $31 166.71

Bitcoin is a decentralized digital currency that can be transferred on the peer-to-peer bitcoin network.

You already bought these crypto coins.

## Buy Crypto (logged in user who is not the current crypto owner)

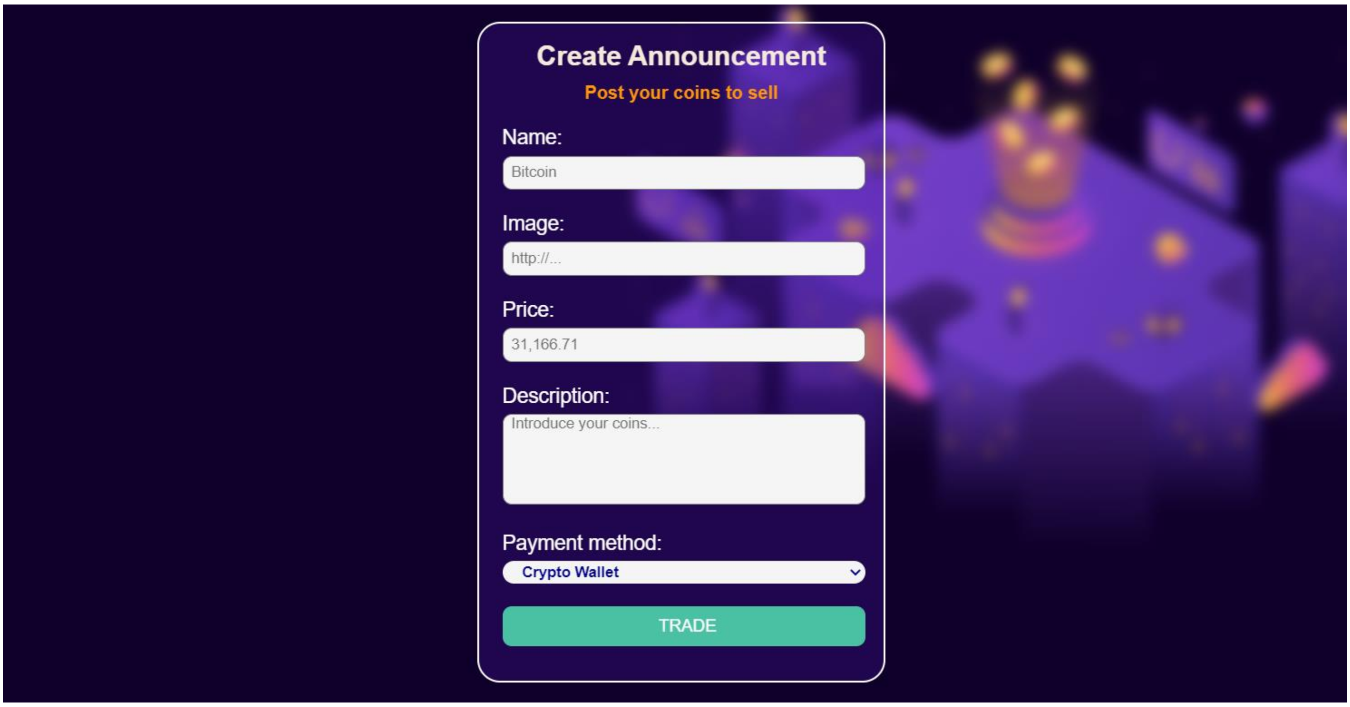
Any registered user who is **not** the current **owner** of the crypto offer must be able **to buy crypto** (if any).

If he manages to **buy the crypto successfully**, his **userId** must be added to the collection of **Buy a crypto** and **redirect** the user to the **Details** page for the current **crypto offer**.

If a user has once bought current crypto, he should see " `You already bought these crypto coins.`".

## Create Offer (Logged in User)

The **Create Offer** page is available to **logged-in users**. It contains a form for adding a new crypto offer. Upon success, **redirect** the user to the **All Crypto** page.



Create Announcement

Post your coins to sell

Name: Bitcoin

Image: http://...

Price: 31,166.71

Description: Introduce your coins...

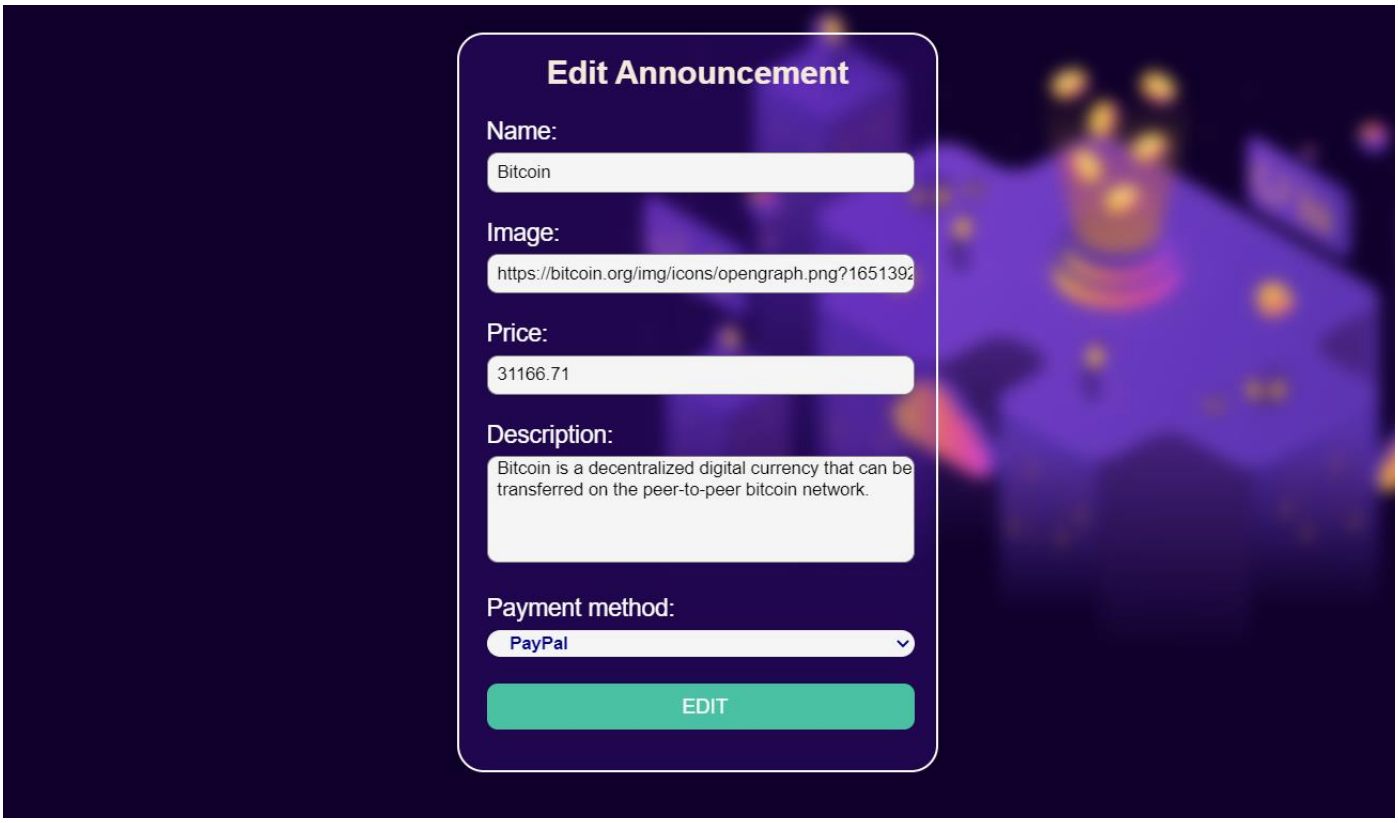
Payment method: Crypto Wallet

## Delete Offer (logged in user and owner of the current offer)

Each **owner** of the crypto offer must be able to click on the **[Delete]** button and **delete the current crypto** from the Database, and the user must be redirected to the **All Crypto** page.

## Edit Offer (logged in user and owner of the current offer)

Each **owner** can edit their **crypto offer**. Clicking the **[Edit]** button for a specific offer on the details page should display the **Edit page**, all fields being populated with crypto data. It contains a form with input fields for all relevant properties. If successful, redirect the user to the **current crypto details page**.



Edit Announcement

Name:

Bitcoin

Image:

https://bitcoin.org/img/icons/opengraph.png?1651392

Price:

31166.71

Description:

Bitcoin is a decentralized digital currency that can be transferred on the peer-to-peer bitcoin network.

Payment method:

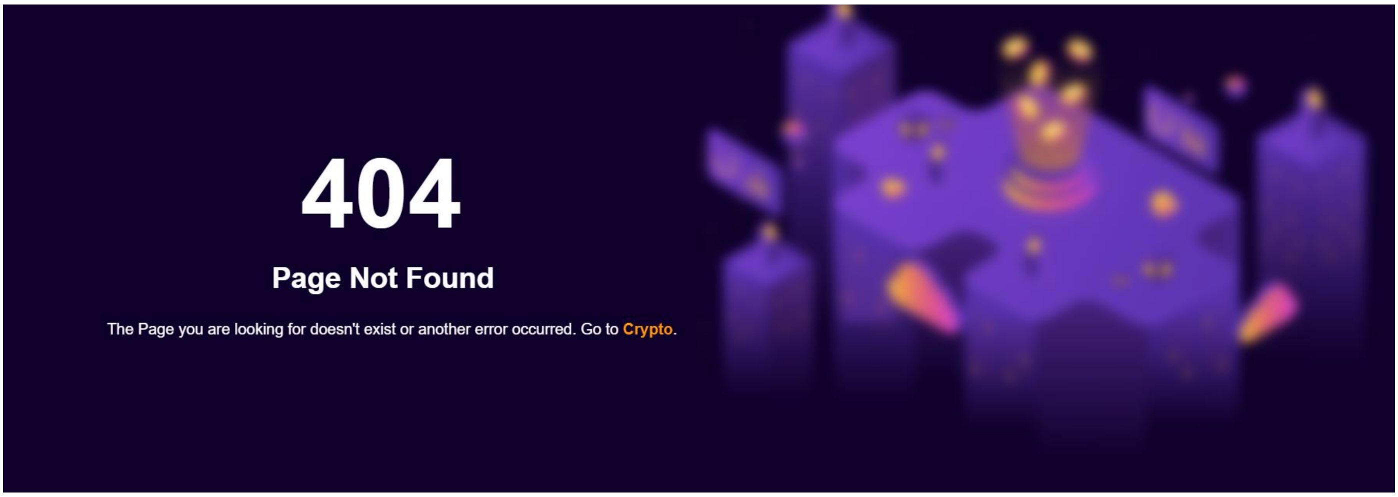
PayPal

## 6. Security Requirements (Routes Guards) - (10 Pts)

The **Security Requirements** are mainly **access** requirements. Configurations about which users can access specific functionalities and pages.

- **Guest** (not logged in) users can access the **Home** page.
- **Guest** (not logged in) users can access the **Login** page and functionality.
- **Guest** (not logged in) users can access the **Register** page and functionality.
- **Guest** (not logged in) and **Users** (logged in) can access the **All Crypto page (Listed all crypto offers)**.
- **Guest** (not logged in) can access the **Details** page without functionality.
- **Users** (logged in) can access the **Home** page.
- **Users** (logged in) can access the **Details** page and functionality.
  - **Users** (not crypto offer owners) can **buy crypto**.
  - **Users** (crypto offer owners) can **Edit** and **Delete** the current crypto offer
- **Users** (logged in) can access **Create Offer** page and functionality.
- **Users** (logged in) can access **Logout** functionality.

Use the following view for **invalid paths**:



404

Page Not Found

The Page you are looking for doesn't exist or another error occurred. Go to Crypto.

## 7. Validation and Error Handling (10 Pts)

The application should **notify** the users about the result of their actions.

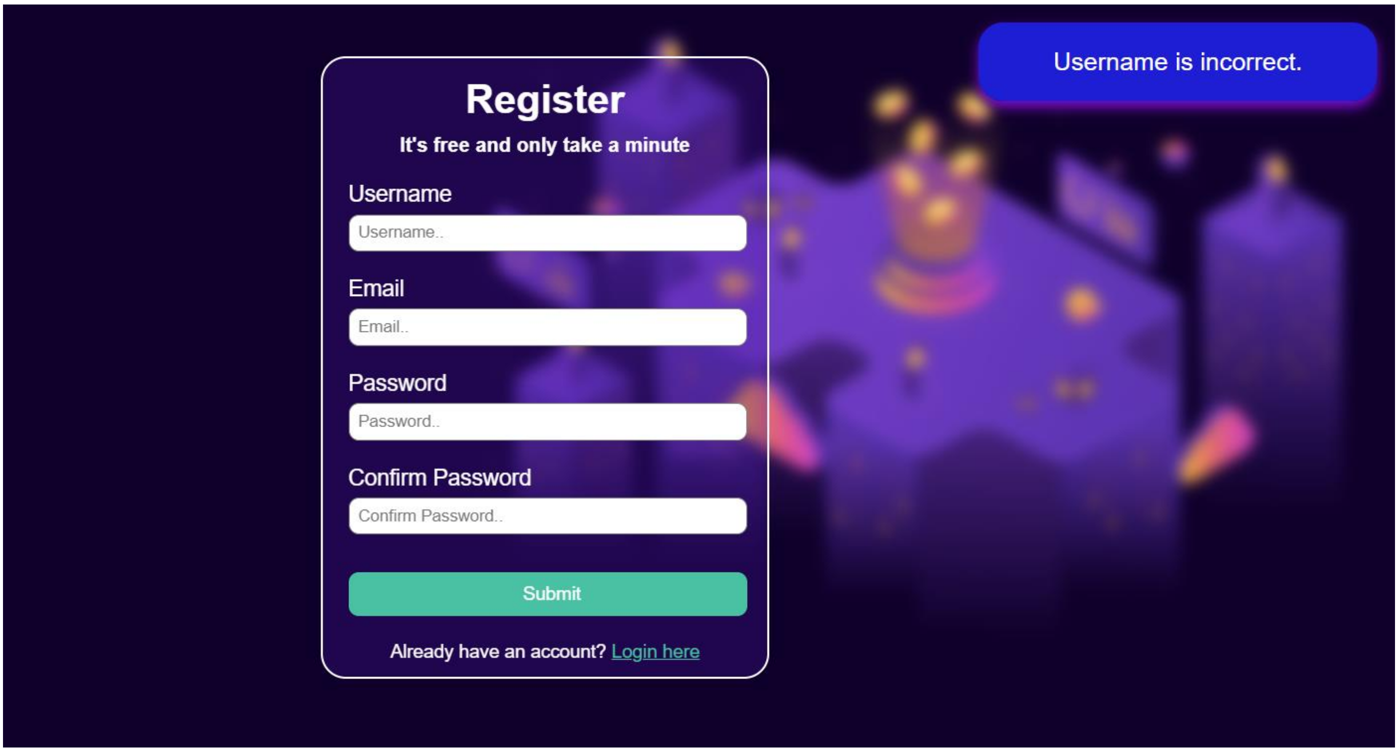
In case of error, you should display div with class "**errorContainer**"

You can choose to display the first error or all of them. You have complete freedom to choose the content of the error message you will display.

### Login / Register

You should make the following validations:

- The **username** should be **at least five characters** long
- The **email** should be **at least ten character** long
- The **password** should be **at least four characters** long
- The **repeat password** should be **equal to the password**



Username is incorrect.

Register

It's free and only take a minute

Username

Username..

Email

Email..

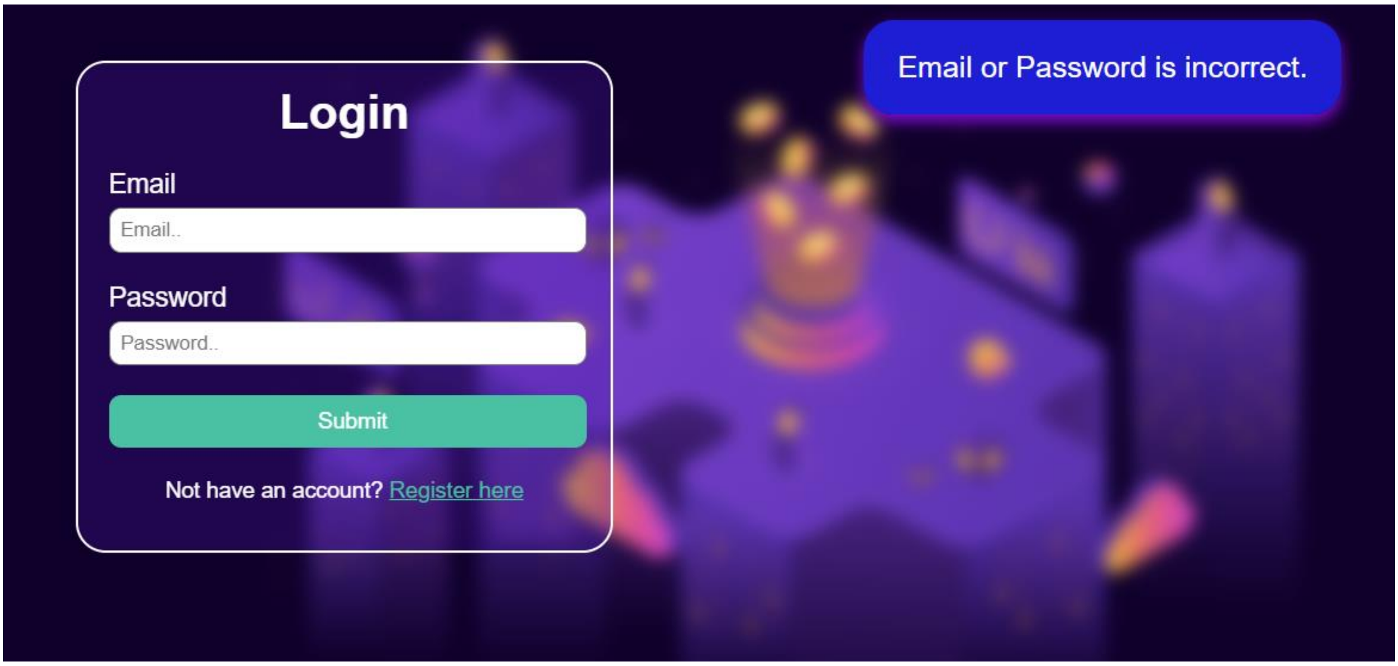
Password

Password..

Confirm Password

Confirm Password..

Already have an account? Login here



Email or Password is incorrect.

Login

Email

Email..

Password

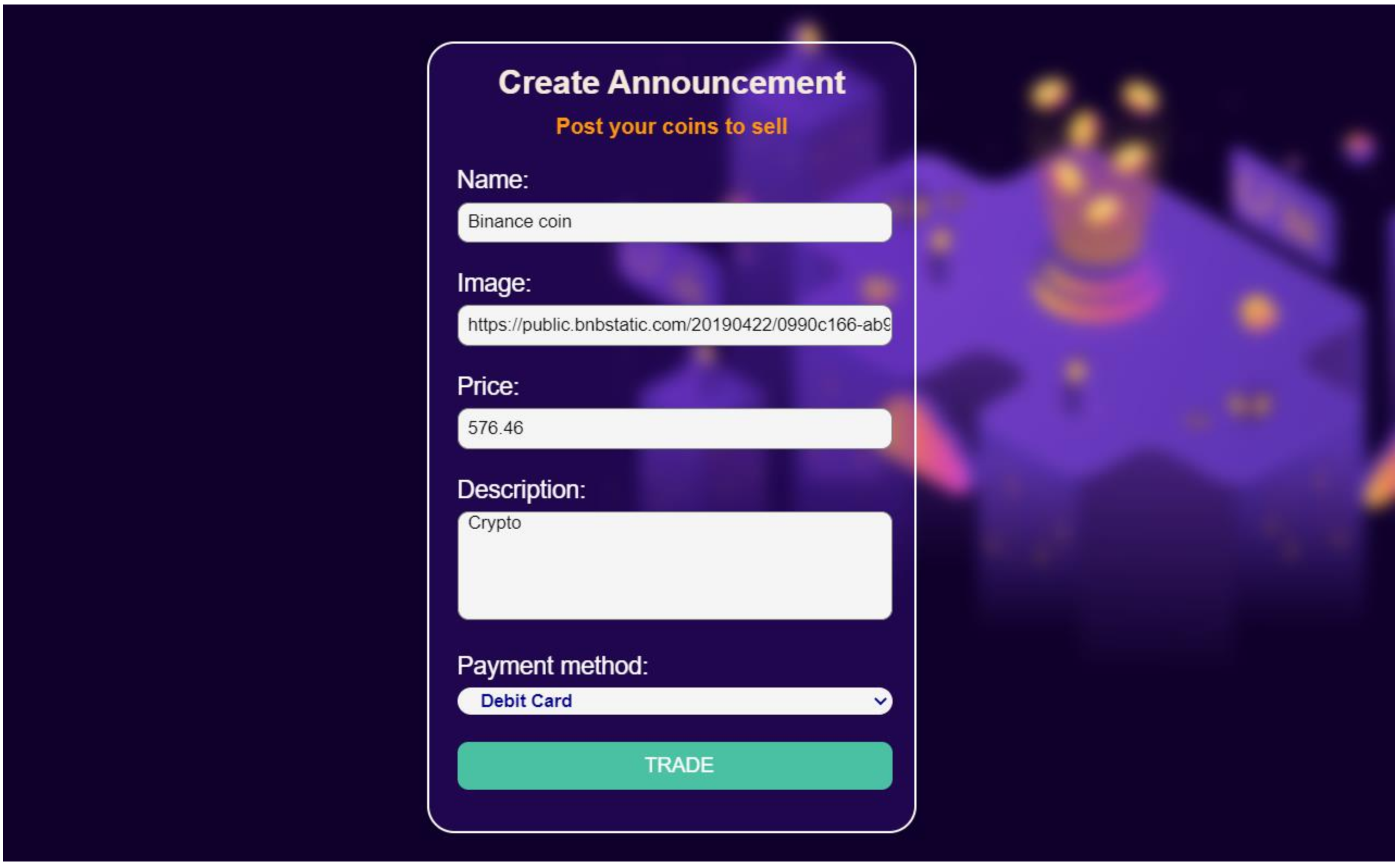
Password..

Not have an account? Register here

## Crypto

You should make the following validations while **creating** or **editing a crypto offer**:

- The **Name** should be **at least two characters**
- The **Price** should be a **positive number**
- The **Crypto Image** should start with **http:// or https://**.
- The **Description** should be a minimum of **10 characters** long.
- The **Payment Method** must be one of the options



Create Announcement

Post your coins to sell

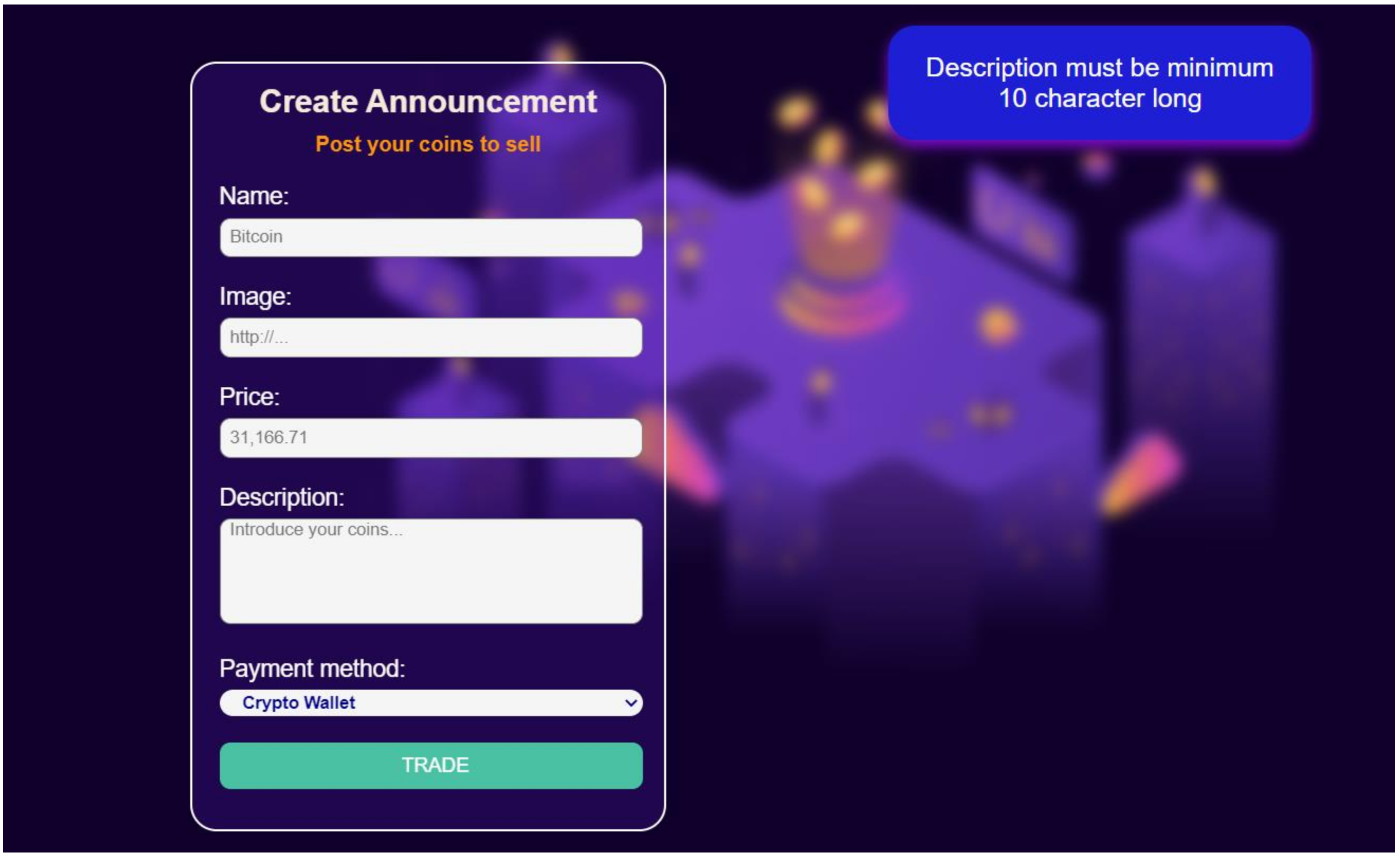
Name: Binance coin

Image: https://public.bnbstatic.com/20190422/0990c166-ab9

Price: 576.46

Description: Crypto

Payment method: Debit Card



Create Announcement

Post your coins to sell

Name: Bitcoin

Image: http://...

Price: 31,166.71

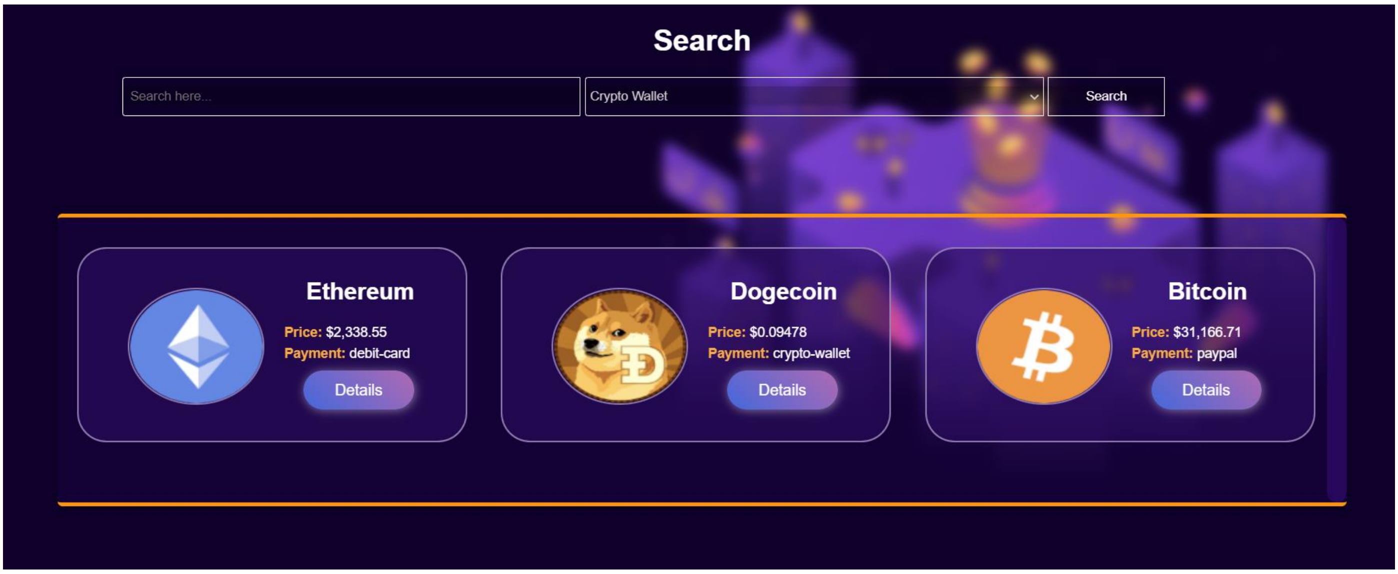
Description: Introduce your coins...

Payment method: Crypto Wallet

Description must be minimum 10 character long

## * Bonus – Search (10 Pts)

Search **for crypto**. When you enter the search page, first, you must see all the crypto offers. Filter all matches by name and payment method (case insensitive).



Search

Search here...

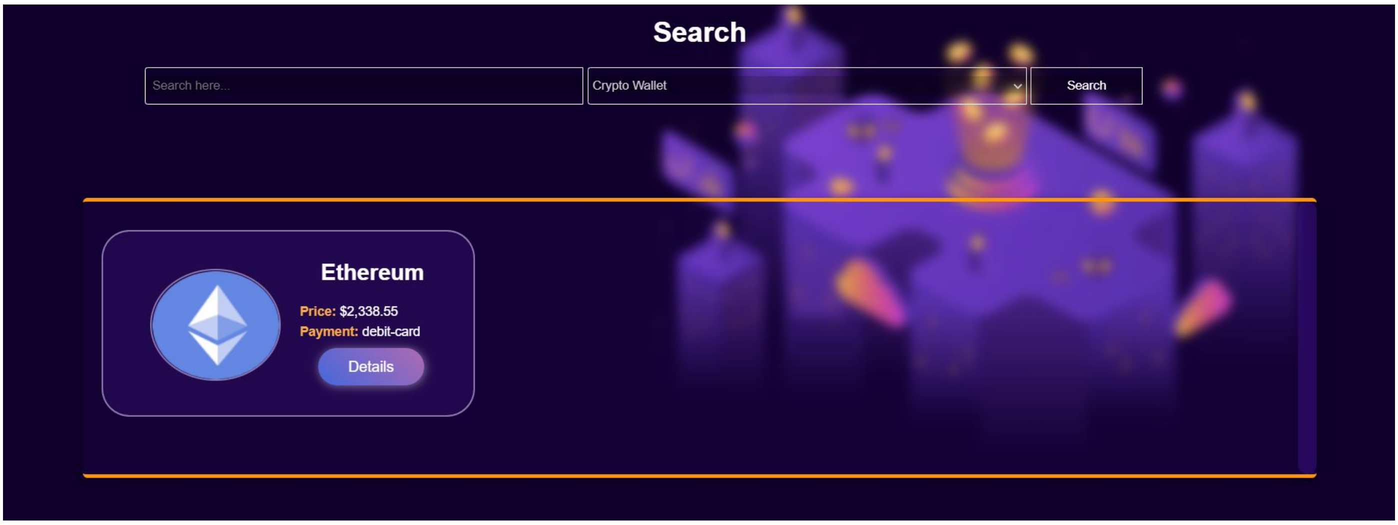
Crypto Wallet

Ethereum
Price: $2,338.55
Payment: debit-card

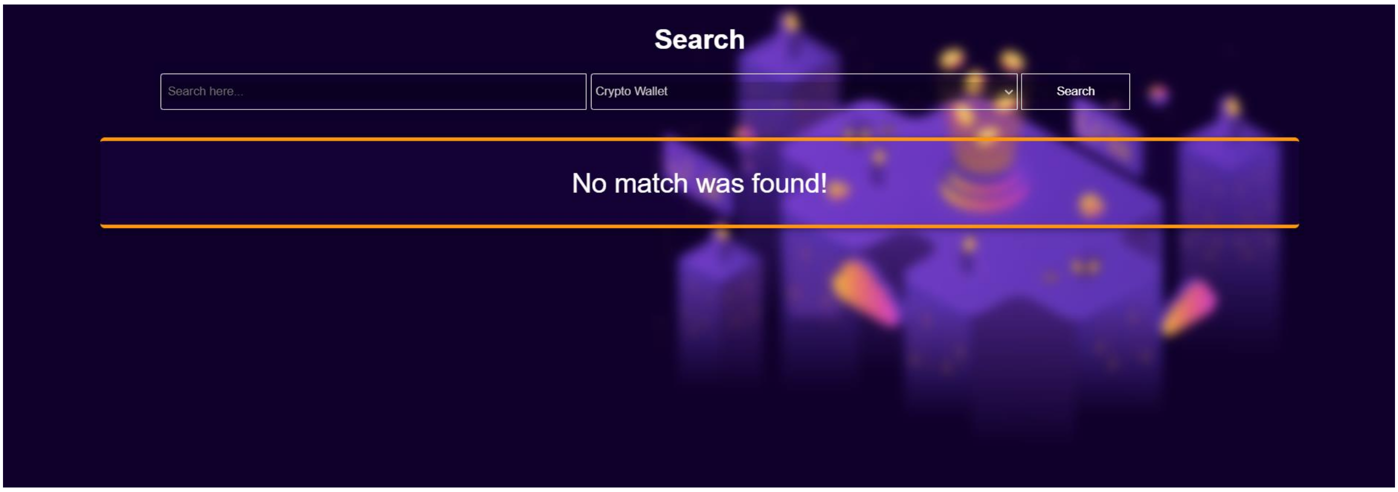
Dogecoin
Price: $0.09478
Payment: crypto-wallet

Bitcoin
Price: $31,166.71
Payment: paypal

After clicking on the **[Search]** button, and If there are any matching matches from the search, show each.



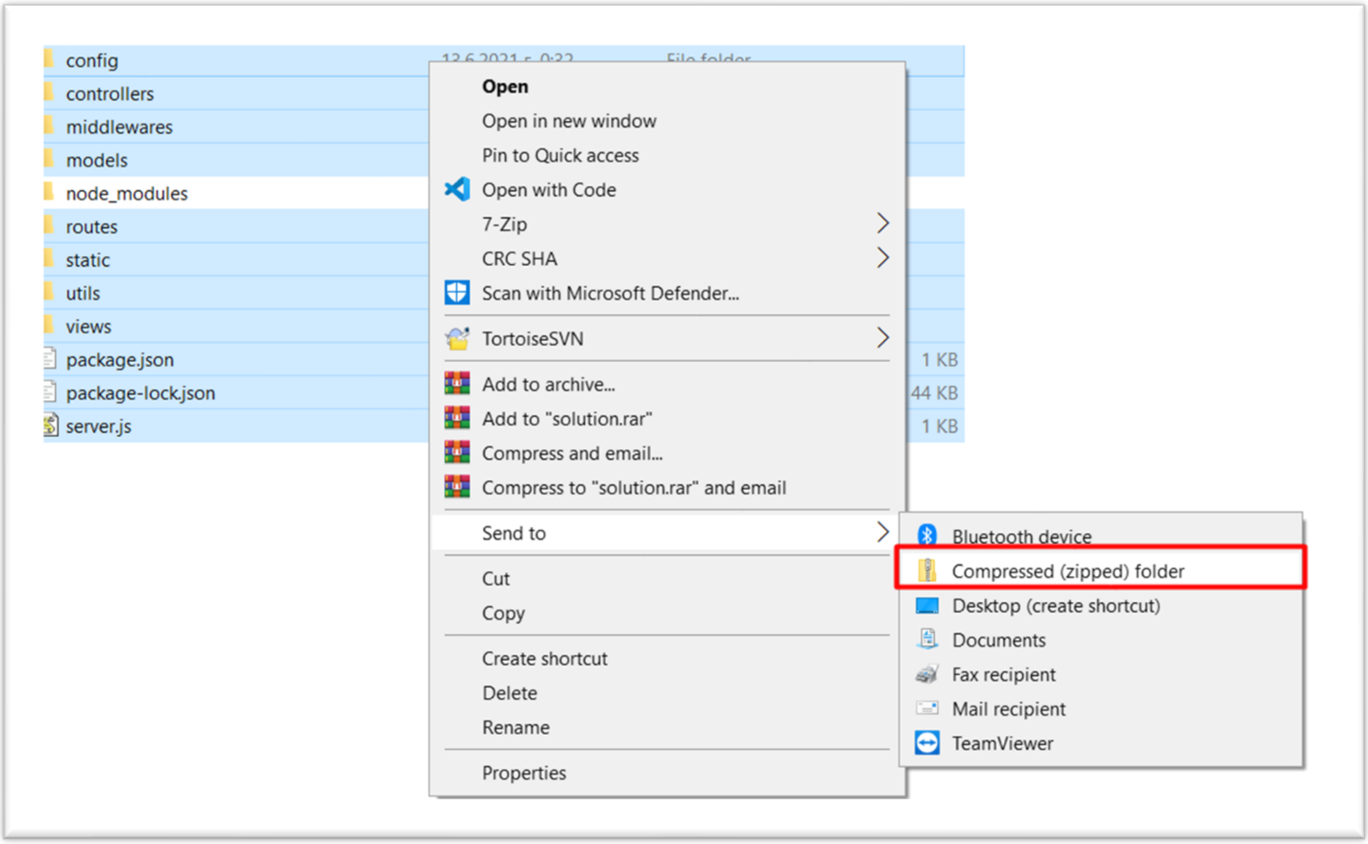
If there are **no** search matches, display:

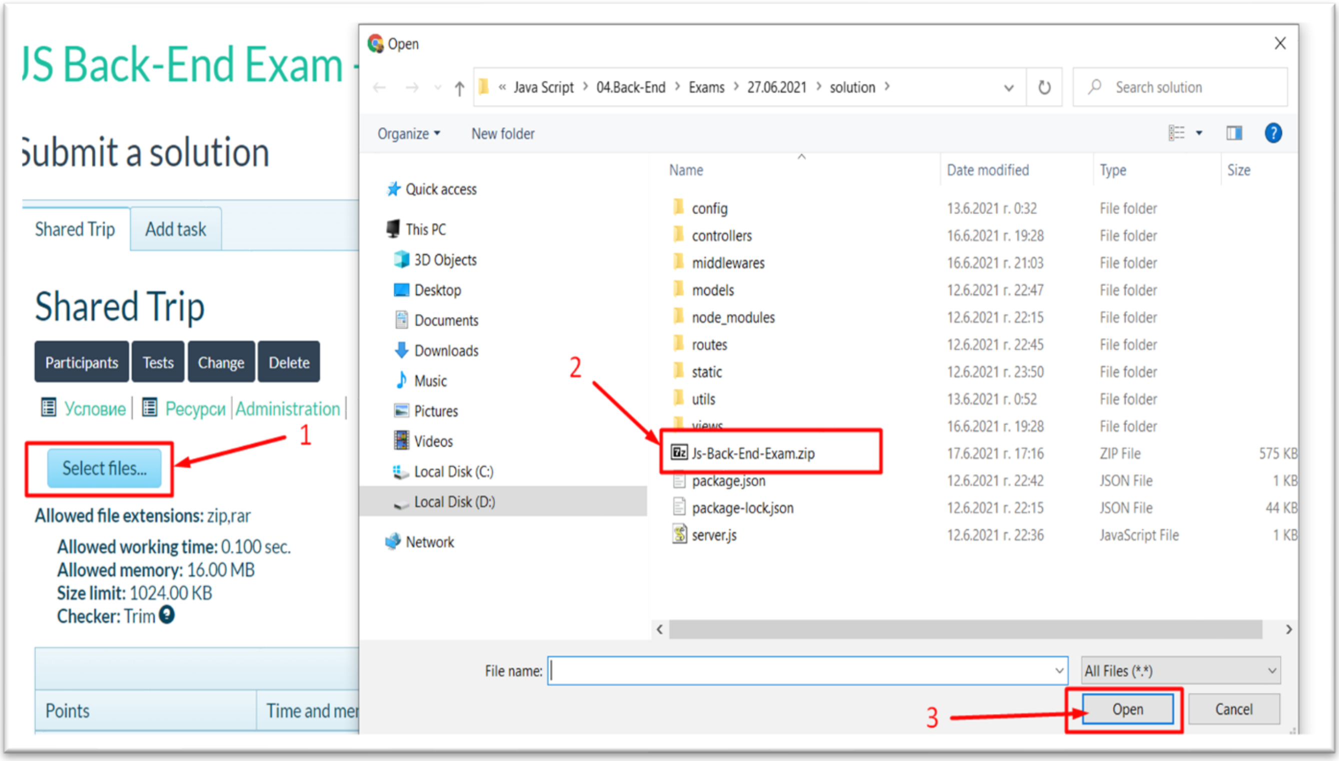


No match was found!

## 8. Submitting Your Solution

Place in a **ZIP** file your project folder. Exclude the **`node_modules`** folder. Upload the archive to Judge.

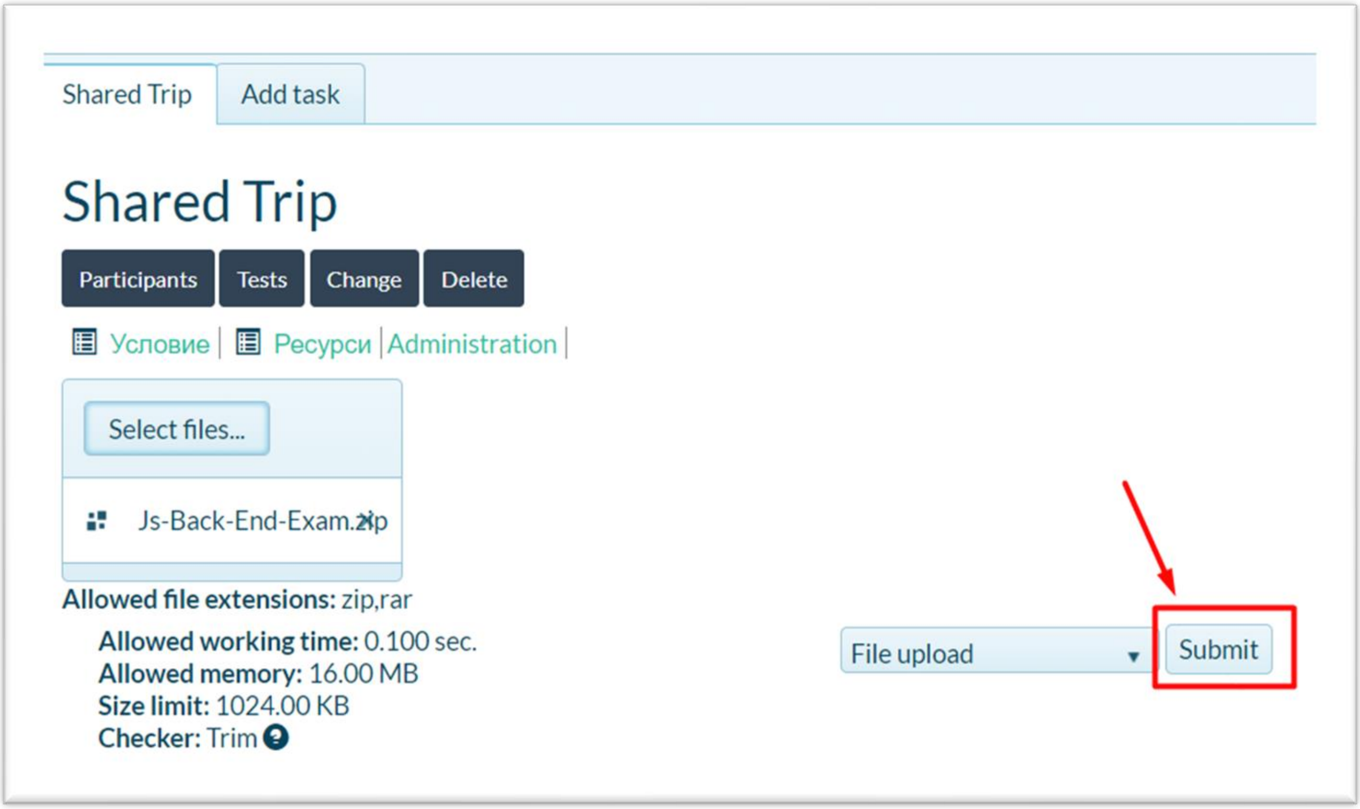




Allowed file extensions: zip,rar

Allowed working time: 0.100 sec.
Allowed memory: 16.00 MB
Size limit: 1024.00 KB
Checker: Trim

| Name | Date modified | Type | Size |
|---|---|---|---|
| config | 13.6.2021 г. 0:32 | File folder | |
| controllers | 16.6.2021 г. 19:28 | File folder | |
| middlewares | 16.6.2021 г. 21:03 | File folder | |
| models | 12.6.2021 г. 22:47 | File folder | |
| node_modules | 12.6.2021 г. 22:15 | File folder | |
| routes | 12.6.2021 г. 22:45 | File folder | |
| static | 12.6.2021 г. 23:50 | File folder | |
| utils | 13.6.2021 г. 0:52 | File folder | |
| views | 16.6.2021 г. 19:28 | File folder | |
| Js-Back-End-Exam.zip | 17.6.2021 г. 17:16 | ZIP File | 575 KB |
| package.json | 12.6.2021 г. 22:42 | JSON File | 1 KB |
| package-lock.json | 12.6.2021 г. 22:15 | JSON File | 44 KB |
| server.js | 12.6.2021 г. 22:36 | JavaScript File | 1 KB |



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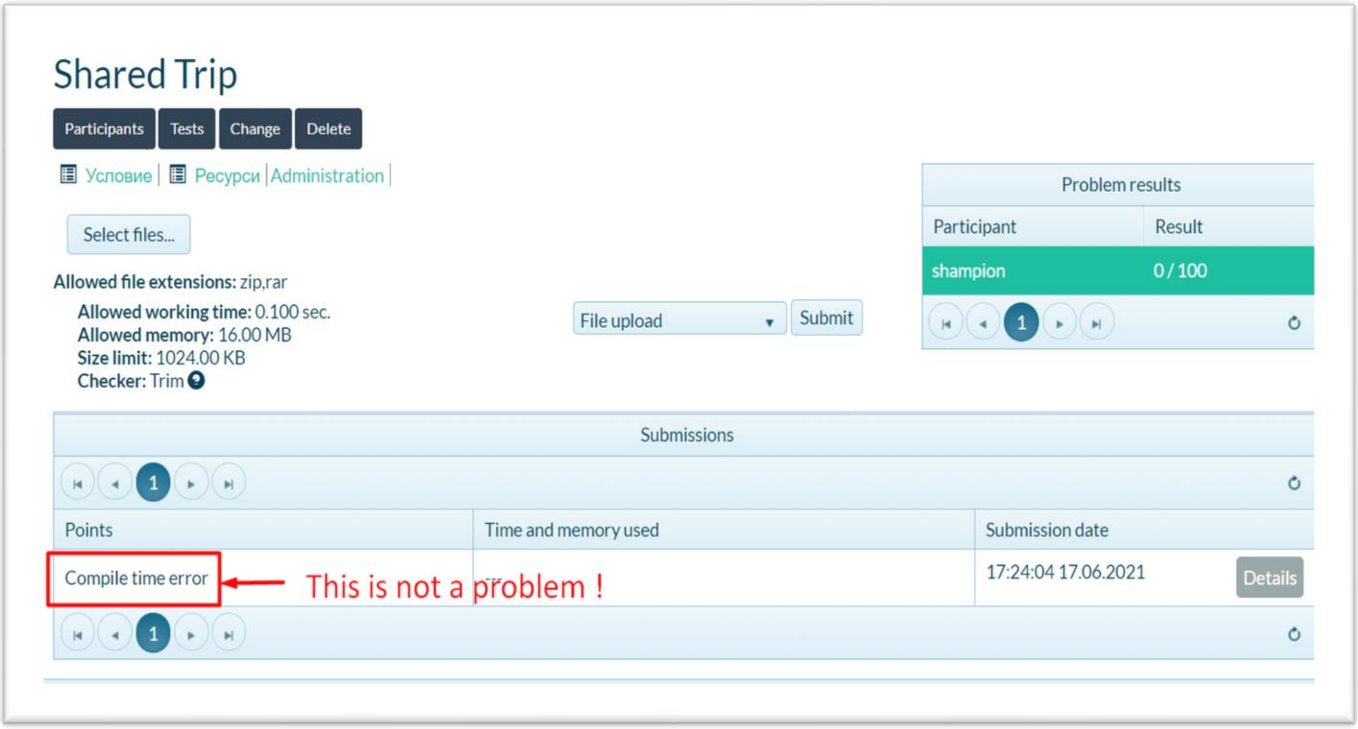

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Allowed working time: 0.100 sec.
Allowed memory: 16.00 MB
Size limit: 1024.00 KB
Checker: Trim

| Participant | Result |
|---|---|
| shampion | 0 / 100 |

| Points | Time and memory used | Submission date |
|---|---|---|
| Compile time error | --- | 17:24:04 17.06.2021 |

This is not a problem !

# *GOOD LUCK!* 😌