

Product Differentiation

IG11-UPS
yy295, mz197

Functionality:

This is a Mini-UPS shipping website. A user can use this website to manage or track his/her packages transferred by Mini-UPS.

The program supports user registration, login, logout. Without logging in, a single package can be tracked by tracking number. User can modify a not yet delivered package by logging in to the system.

When the package was sent with a registered Mini-UPS user information, the package will automatically be linked and merged to the associate user in Mini-UPS.

An email notification will be sent to the user's email when the user's package has been delivered.

E.g. Homepage:

The screenshot shows the homepage of the Mini-UPS website. At the top, there is a yellow navigation bar containing the UPS logo, a 'Track Package' link, the user greeting 'Hello, AnonymousUser', and 'Login' and 'Logout' links. Below the navigation bar, there are three white boxes displaying order statistics: 'Total Orders' with a value of 3, 'Orders Pending' with a value of 2, and 'Orders Completed' with a value of 0. Below these boxes, there is a section titled 'RECENT ORDERS:'. Under this section, there is a table with a yellow header bar that says 'Tracking Packages'. The table has two columns: 'PackageID' and 'Status'. It lists three packages: PackageID 1 with status 'delivering', PackageID 3 with status 'wait', and PackageID 4 with status 'wait'.

PackageID	Status
1	delivering
3	wait
4	wait

- A logo can take user back to homepage from anywhere
- Two places to access "Tracking Package" page.
- Log in, Log out and registration.

Handling different “Worlds” data

This website supports Multi-Worlds. When it connects to a new World, it recovers. Multi-Worlds are differentiated by “world-id”. All the Worlds information are stored in World database and can be accessed correctly through its “world-id”. This functionality not only improves the flexibility of Mini-UPS greatly, broadens its economic benefits but also segregated data better.

User Friendly:

Mini-UPS has a nice user interface. The website theme color is consistent with the brand. It is easy to use, even without log in.

There are three status boxes which record number of total orders, pending orders, the orders still waiting for the next steps, and completed orders. Pending orders can change their delivery address by an associated user. If the user is not logged in, he/she can only see the numbers for the status boxes. If a user is logged in, he/she will be able to check the details of these status boxes.

Clear and intuitive user navigation bar allows users to quickly meet their needs. Recent packages and their status will be showed on homepage. High feedback, when a button is clicked to make a modification, a notification message pops up.

High privacy and security

The user Interfaces for an authorized user and an unauthorized user are slightly different. As mentioned above, unauthorized user can only see some information but not modifying. Even tracking a package through tracking number, only the status will be showed. If a user would like to see more information of the order, he or she needs to log in. This feature improves user privacy and data security. So that users who are not logged in still can achieve certain functions but have no other permissions.

Scalability:


To handle high concurrency, this website contains threads and thread pools that handle requests. Separate threads handle interactions with the world and Amazon. And threads can be reused. The use of thread pools greatly enhances the program's ability to handle high-frequency requests and also greatly reduces the probability of packet loss and blocking.

User Flow:

- **Non-Logged-In Homepage:**

- Can see the number of total orders, pending orders through Mini-UPS in this World.



 Track Package Hello, AnonymousUser Login Logout

Total Orders
3

Orders Pending
2


Orders Completed
0

RECENT ORDERS:

Tracking Packages	
PackageID	Status
1	delivering
3	wait
4	wait

- Can track package by clicking “Track Package” button in Navigation Bar or “Tracking Packages” button in Recent Orders:




 Track Package Hello, AnonymousUser Login Logout

Track Package

Input tracking number*

- ➔ If the package with the associate tracking number does not exist:


 Track Package

Hello, AnonymousUser Login Logout

No Tracking Number "1344" Info here! [Back to homepage](#)

Our footer

➔ If exist:

 Track Package

Hello, AnonymousUser Login Logout


Package


Tracking Number	Status
1	delivering

- Can log in by clicking *Login*:



LOGIN

 Username...

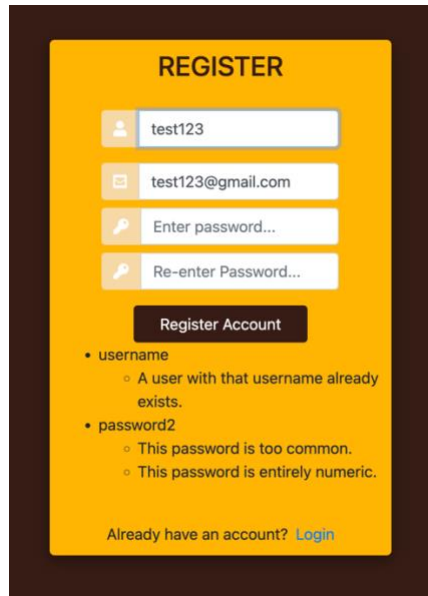
 Password...

Login

Don't have an account? [Sign Up](#)

- If does not have an account, can register through *Sign Up*:





REGISTER

test123

test123@gmail.com

Enter password...

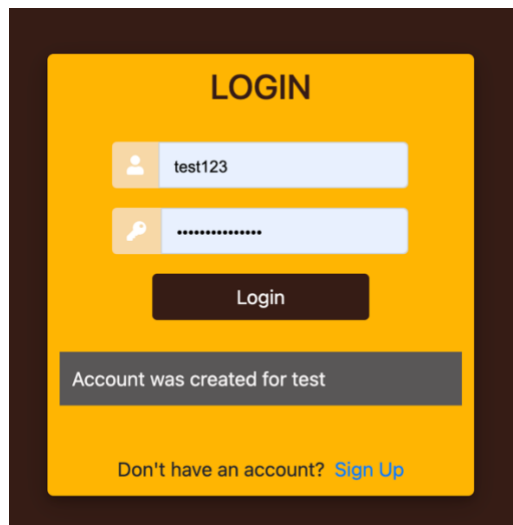
Re-enter Password...

Register Account

- username
 - A user with that username already exists.
- password2
 - This password is too common.
 - This password is entirely numeric.

Already have an account? [Login](#)

- *There are some input restrictions for registration.
- When register successfully, it will jump to Login page with a message shown.
- ➔



LOGIN

test123


.....

Login

Account was created for test

Don't have an account? [Sign Up](#)

● **Logged-In Homepage:**

 Track Package

Hello, mz197 Login Logout

Total Orders

2

Orders Pending

1

Orders Completed


0

RECENT ORDERS:

Tracking Packages	
PackageID	Status
1	delivering
4	wait

- Can see packages detail associate with the logged in user by clicking *Total Orders*:



 Track Package

Hello, mz197 Login Logout

Packages

PackageID	Product & Number	Status	Deliver Address
1	boots, 2	delivering	(5, -3)
4	boots, 4	wait	(8, 8)

- Can modify pending orders by clicking *Orders Pending*:



Pending Orders

PackageID	Change Address
4	<button>CHANGE</button>



Updating X and Y

Location_x*

Location_y*

Save Edit

After changing the delivery address, a message will pop up:



Total Orders
2

Orders Pending
1

Orders Completed
0

Destination Changed Successfully!

RECENT ORDERS:

Tracking Packages

- When the package is delivered, the user will get an email notification from Mini-UPS



11:01 ↗

📶 LTE 🔋



UPS Notification!



someforduke@gmail.com

09:55

...

Your Message is delivered.