

TransiTracker User Manual

Installation

This section is meant to be read from beginning to end. Installation steps are in an order that ensures dependencies are in place before installing a package that depends on them.

Server set up

While any modern linux installation should work, this document will assume that you are using Ubuntu 20.04 LTS or higher. As such, all install scripts will implement the `apt` package manager. The default shell in Ubuntu is the Bash shell. As such, all command line entries in this document are prefaced with the `$` character, followed by a space. Whether you decide to type the commands manually, or copy and paste, do not insert the `$` character or the space at the beginning of the string.

Python3

The TransiTracker application is written primarily in Python3 and leverages several Python3 packages to deliver a smooth experience and clean user interface.

Note: This documentation will refer to Python3 as Python from here on. However, in the command line, it is imperative that `python3` be used as `python` refers to Python v. 2.

First, let's make sure Python is installed. You can check the version of Python that's installed with the following command:

```
$ python3 --version
```

The returned line should look something like:

```
$ Python 3.8.5
```

If you do not have `python3` installed, you may install it with the following command:

```
$ sudo apt install python3
```

pip - The Python Package Installer

Now that Python is installed, we need to install pip. pip is used to install packages that can be used by Python. Install pip with the following command:

```
$ sudo apt install python3-pip
```

With pip installed, we can move on to the next dependency.

pip Requirements

As mentioned previously, this application leverages several Python packages. To install those packages, navigate within the **TransiTracker** directory and run the following command.

```
$ pip3 install -r requirements.txt
```

PostgreSQL

PostgreSQL is an extremely popular and reliable relational database. TransiTracker uses PostgreSQL to store the inventory, employee, and account data. To install the latest version of PostgreSQL, run the following commands:

First we add the PostgreSQL repository to the list of sources in our linux installation.

```
$ sudo sh -c 'echo "deb http://apt.postgresql.org/pub/repos/apt $(lsb_release -cs)-pgdg main" > /etc/apt/sources.list.d/pgdg.list'
```

Next we import the repository signing key:

```
$ wget --quiet -O - https://www.postgresql.org/media/keys/ACCC4CF8.asc | sudo apt-key add -
```

Then we update the package lists (note the `apt-get` here)

```
$ sudo apt-get update
```

Finally, we install the latest version of PostgreSQL:

```
$ sudo apt-get -y install postgresql
```

TransiTracker DB Creation

This document describes the process of (re)creating the database and tables used in TransiTracker. This document assumes that you've already installed PostgreSQL on your linux system.

Database Creation

```
$ sudo -u postgres psql
```

You will now see your prompt with the prefix `postgres=#`. Note here, that each line ends with ; sudo -r
First we create the database:

```
create database transittracker_dev;
```

Then we create a user:

```
create user ttadmin with encrypted password 'csci4230';
```

Then we grant privileges to that user:

```
grant all privileges on database transittracker_dev to ttadmin;
```

Finally, we quit `psql`:

```
\q
```

You should now be back at your shell, indicated by the \$ character in Bash.

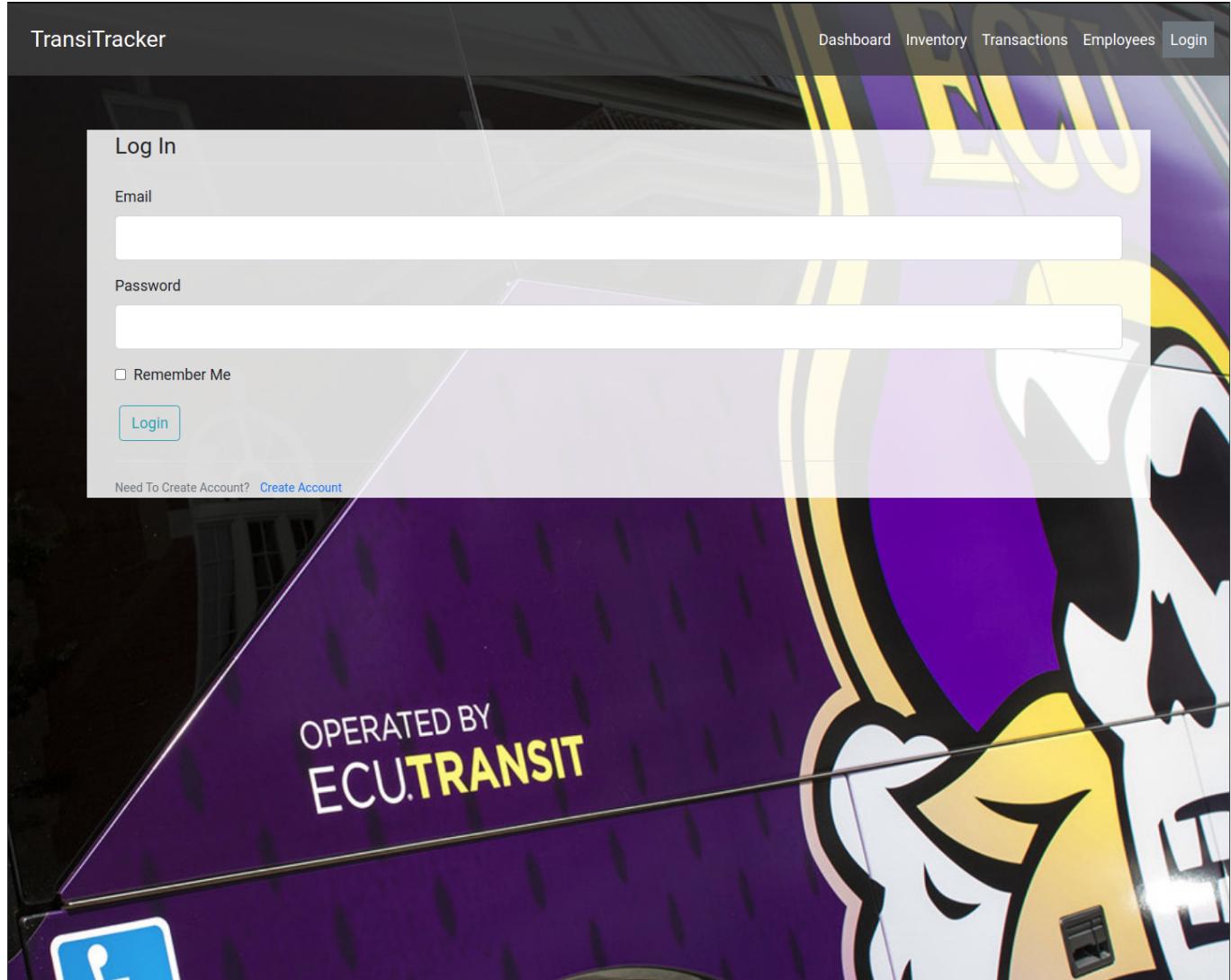
Running the Application

To run the application in developer mode, run the following command:

```
$ python3 run.py
```

Account Creation

When you open the app while not logged in, you will always be redirected to the Log On page. Click the 'Create Account' button found just below the Login form.



You will then see the Create An Account page:

The screenshot shows a web browser window titled "TransiTracker | Create Account - Chromium". The address bar displays the URL "127.0.0.1:5000/createAccount". The main content area is a "Create Account" form with the following fields:

- First Name: An empty input field.
- Last Name: An empty input field.
- Email: An empty input field.
- Password: An empty input field.
- Confirm Password: An empty input field.

Below the form is a "Create Account" button with a blue border. At the bottom left, there is a link "Already Have An Account? [Sign In](#)". The background of the page features a purple and yellow graphic design with the text "OPERATED BY ECU.TRANSIT".

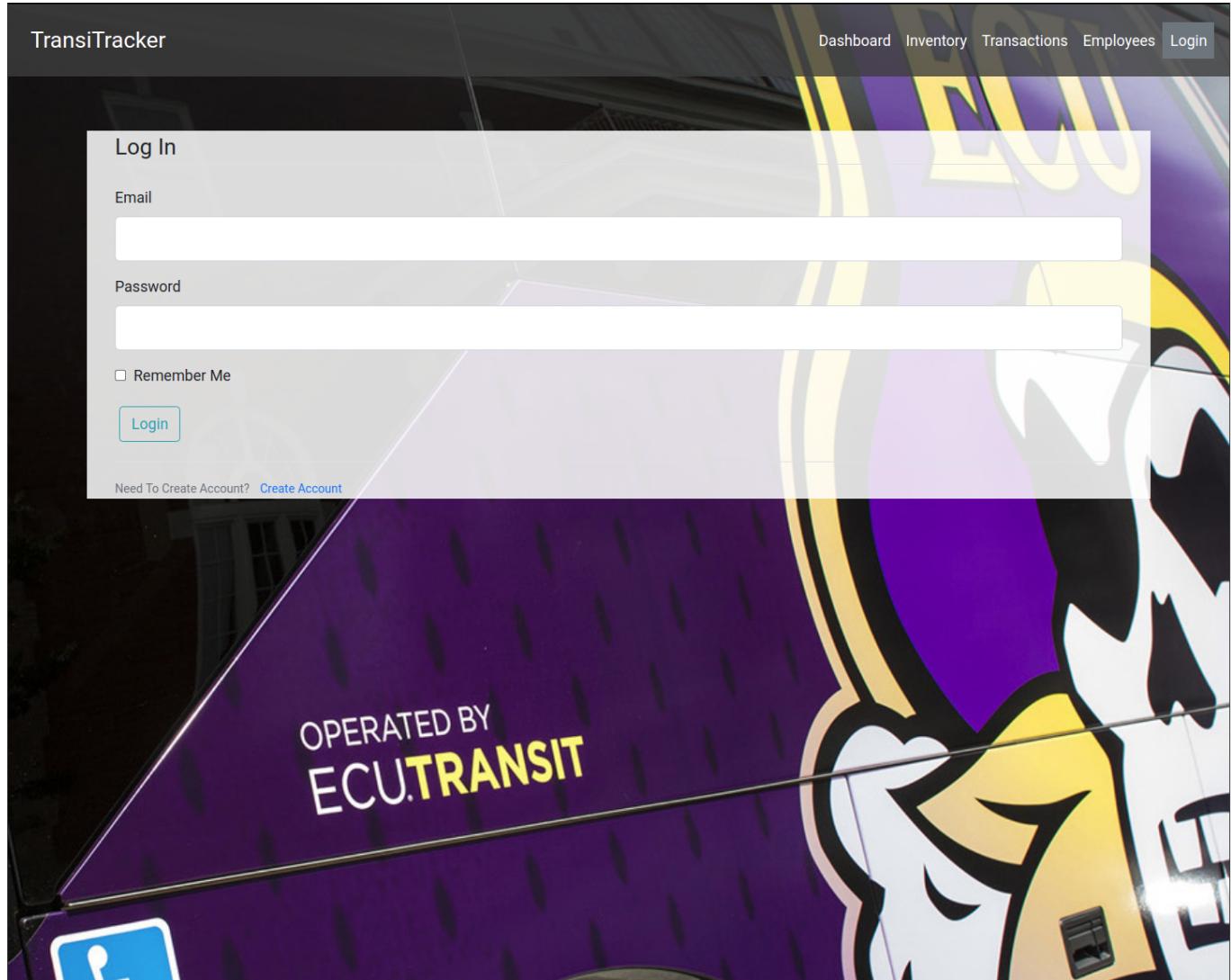
Fully fill out the page and click **Create Account**. You'll then be returned to the Login Page where you can log in.

Note: The first account created is automatically an Admin account. All further accounts will be created as regular User accounts. For information on how to change someone's privilege level, see the section "Edit User"

Logging In

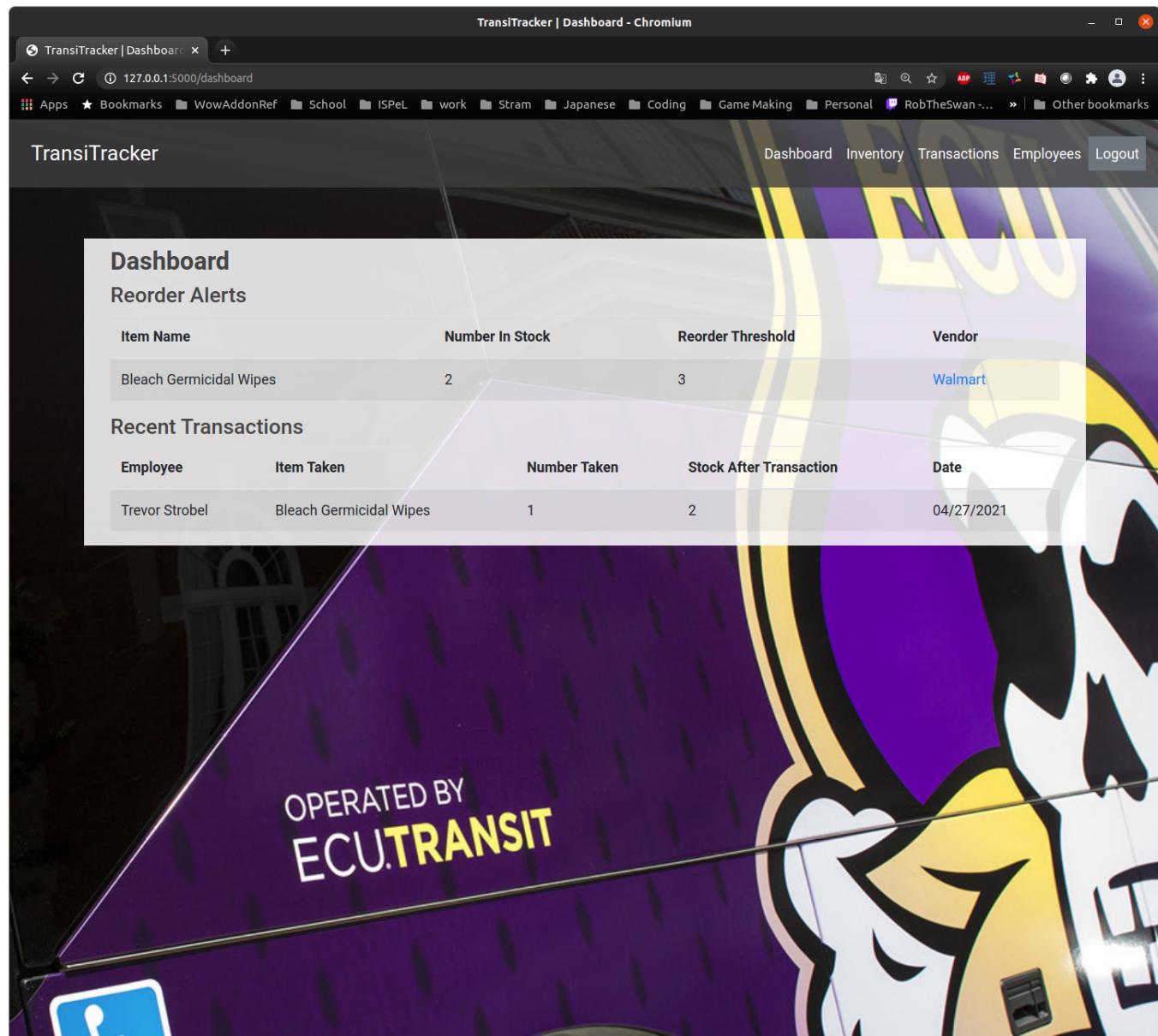
To log in to the TransiTracker application, navigate to the Login page by clicking the **Log In** button in the top right of the window.

Fill out the displayed Log In form with your credentials.



You will then be redirected to the Dashboard page.

Dashboard



The dashboard is where you'll find the most important information for your day-to-day operations in TransiTracker. There are two tables on the dashboard: Reorder Alerts and Recent Transactions.

As the name implies, Reorder Alerts will display items that need to be reordered. This decision is made based on the number of that item in stock and the reorder threshold set in the item's settings. More on that later in the "Item Creation" section.

Recent Transactions shows the 10 most recent transactions made in the TransiTracker system.

Inventory

The screenshot shows a web browser window for 'TransiTracker | Inventory - Chromium' at the URL '127.0.0.1:5000/inventory'. The page has a dark header with the 'TransiTracker' logo and navigation links for 'Dashboard', 'Inventory', 'Transactions', 'Employees', and 'Logout'. A green success message at the top left says 'Item Bleach Germicidal Wipes created.' Below it is a table titled 'Inventory' with columns: 'Item Name', 'Number In Stock', 'Reorder Threshold', and 'Vendor'. The table lists four items: D-Vour (19, 10, Home Depot), Broom (10, 4, Home Depot), Recycle Bins (21, 10, Walmart), and Bleach Germicidal Wipes (3, 3, Walmart). Each item row has an 'Edit' button on the right. The background features a large graphic of a purple and yellow bus with the text 'OPERATED BY ECUTRANSIT'.

Item Name	Number In Stock	Reorder Threshold	Vendor
D-Vour	19	10	Home Depot
Broom	10	4	Home Depot
Recycle Bins	21	10	Walmart
Bleach Germicidal Wipes	3	3	Walmart

The Inventory page lists all of the items currently in inventory. For Admin users, the **Edit** button will appear next to each item. Clicking the **Edit** button allows an Admin to edit the item's attributes.

Create Item

To add a new item to inventory, click the **Create Item** button the Inventory page. You'll now see the Create Item page.

The screenshot shows a web browser window titled "TransiTracker | Create Item - Chromium". The address bar displays "127.0.0.1:5000/createtitem". The main content area is a "Create Item" form with the following fields:

- Item Name: An input field.
- Number In Stock: An input field.
- Reorder Threshold: An input field.
- Vendor Name (optional): An input field.
- Vendor URL (optional): An input field.

At the bottom left of the form is a blue "Create" button. The background of the browser window features a purple and yellow abstract graphic with the text "OPERATED BY ECUTRANSIT". The browser's top navigation bar includes links for Dashboard, Inventory, Transactions, Employees, and Logout, along with various icons and a search bar.

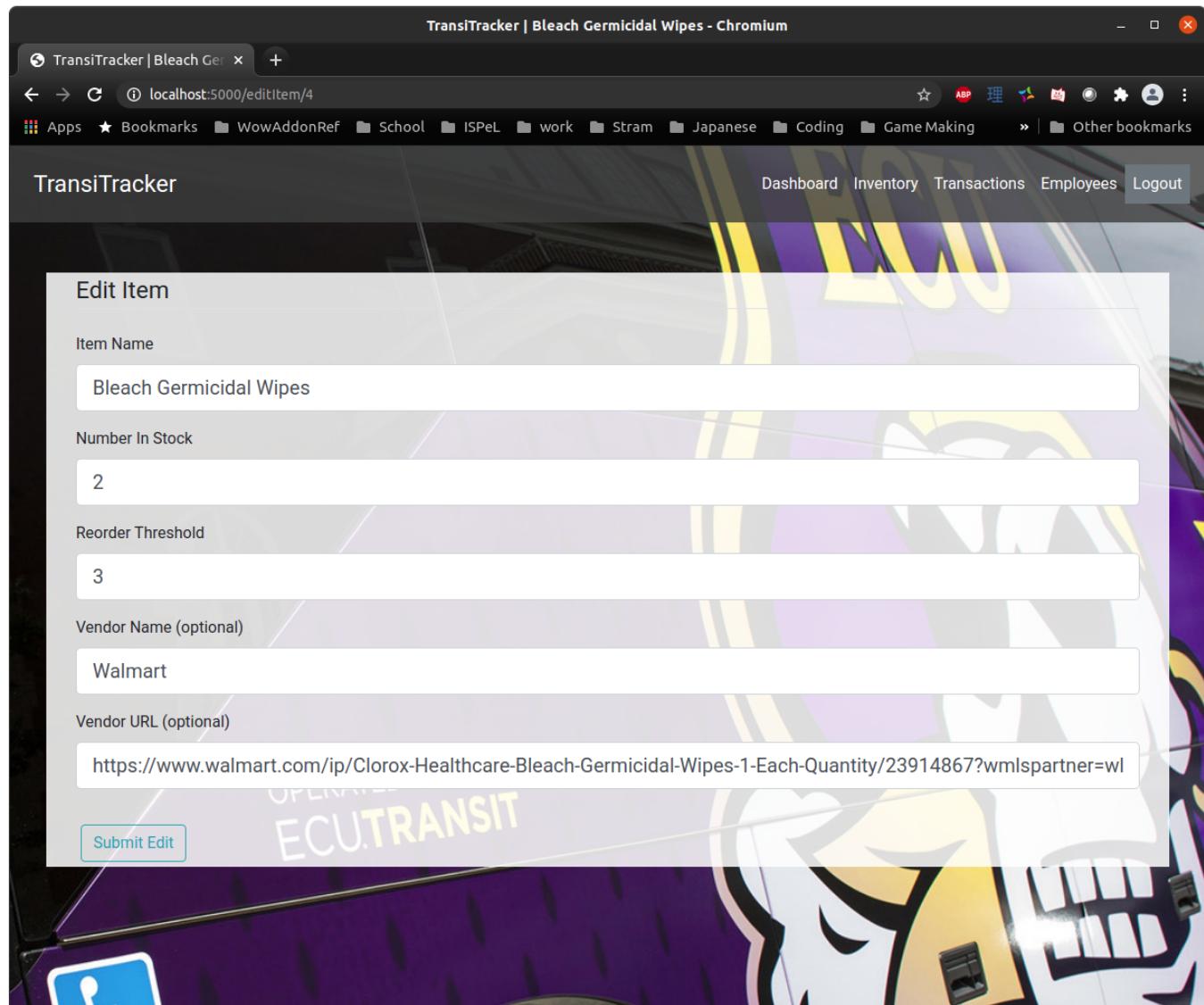
Fill out the form while noting that the Name field cannot be the same as another Item's name. All fields are required unless marked **(optional)**.

Finalize the creation by clicking the **Create** button at the bottom of the form.

Edit Item

As mentioned above, Admin users have the ability to edit an item's attributes using the item's **Edit** button in the Inventory table.

Clicking the **Edit** button returns the following page:



Here, you can alter an item's Vendor details, or adjust the number in stock or reorder threshold. Be careful, as changing an item's stock here will not create a Transaction for the item. Transactions are discussed in the section "Create Transaction".

Transactions

In the TransiTracker application, a Transaction represents an item being taken from inventory by an employee. Whenever an employee takes an item from inventory, they should make a Transaction to record that change in stock.

Navigating to the Transactions page, you'll see the following:

The screenshot shows a web browser window for the TransiTracker application. The title bar reads "TransiTracker | Transactions - Chromium". The address bar shows "localhost:5000/transactions". The page header includes "TransiTracker" and navigation links for "Dashboard", "Inventory", "Transactions", "Employees", and "Logout". A green success message box at the top left says "The transaction has been made". Below it, a search bar has the placeholder "Search" and two buttons: "Search" (blue) and "Clear" (red). A blue button labeled "Create Transaction +" is also visible. A table lists two transactions:

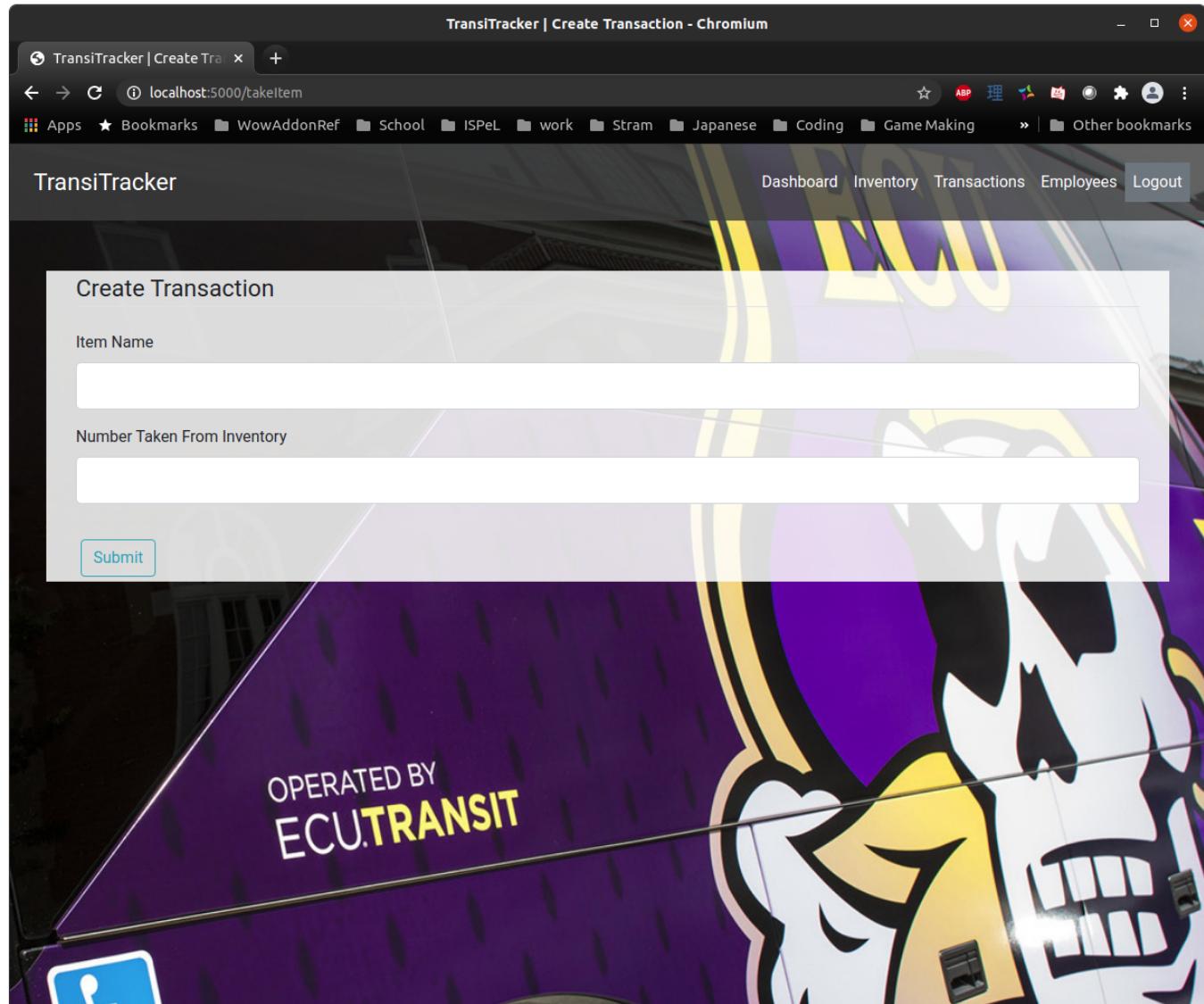
Employee	Item Taken	Number Taken	Stock After Transaction	Date
Trevor Strobel	D-Vour	4	15	04/27/2021
Trevor Strobel	Bleach Germicidal Wipes	1	2	04/27/2021

The background of the page features a large, stylized illustration of a skull wearing a yellow jacket and holding a sword, with the text "OPERATED BY ECU.TRANSIT" overlaid.

Displayed in the Transactions page is a table showing all recorded transactions. You can also search for a particular transaction by searching the employee's name, or the item name on the transaction. Type the name of an item, or an employee's name in the **Search** bar and click the **Search** button. To clear your search results, and return to the complete list of transactions, press the **Clear** button.

Create Transaction

Any employee can create a transaction, and **should** do so whenever they remove an item from inventory for use at work. To create a transaction, navigate to the Transactions page and click the **Create Transaction** button just below the **Search** button.



Fill out the form by entering in an item's name and the number of the item you're removing from the inventory. Then click the **Submit** button to finalize the transaction.

Employees

Navigating to the Employees page will return the list of all registered accounts in the TransiTracker application.

The screenshot shows a web browser window titled "TransiTracker | Employees - Chromium". The address bar displays "localhost:5000/employees". The main content area is titled "Employees" and contains a search bar with placeholder text "Search" and buttons for "Search" and "Clear". Below the search bar is a table with three columns: "First Name", "Last Name", and "Email Address". The table contains two rows of data:

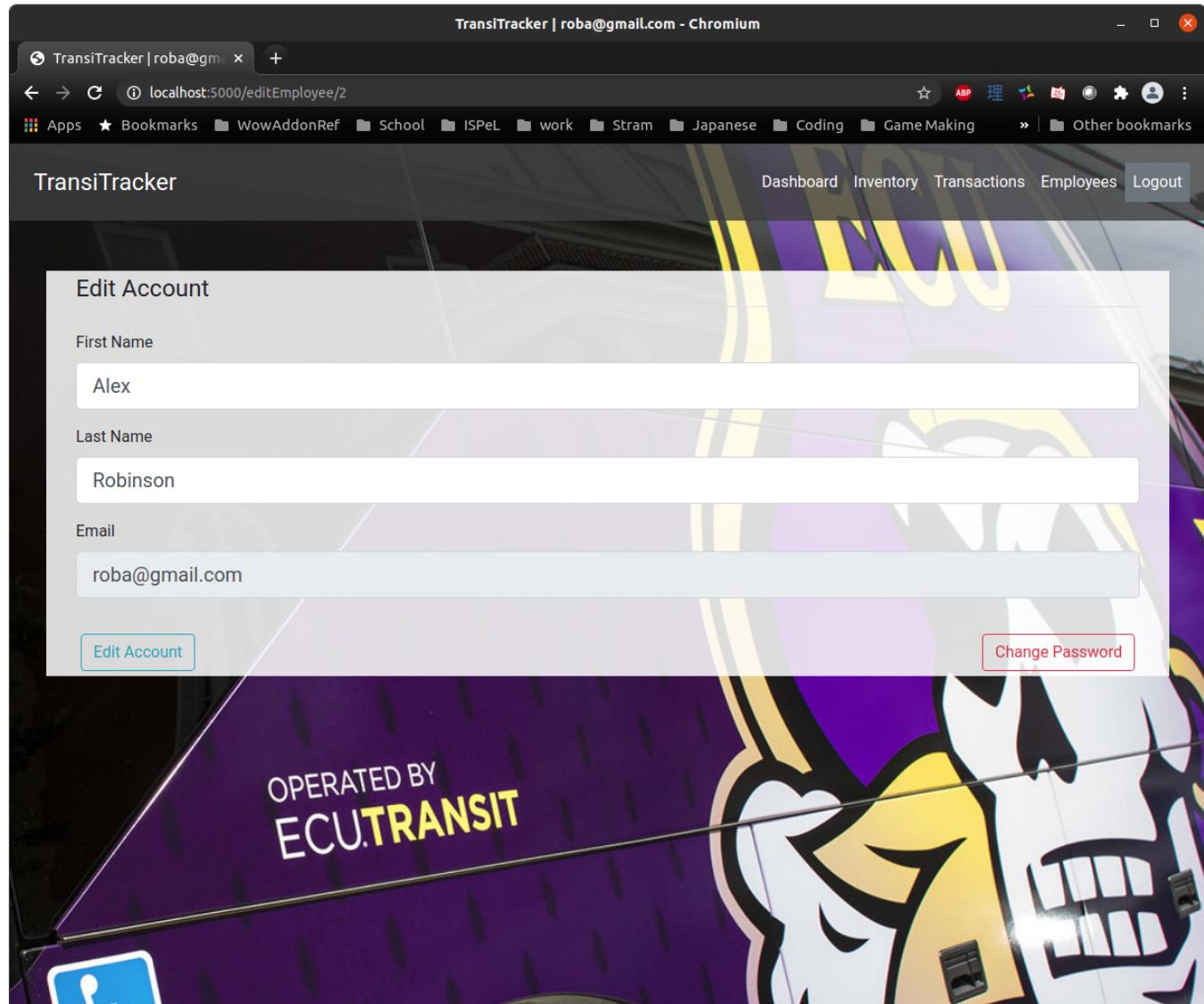
First Name	Last Name	Email Address
Trevor	Strobel	admin@gmail.com
Alex	Robinson	roba@gmail.com

An "Edit" button is located next to the last row's email address. The background of the page features a large, stylized graphic of a skull and the text "OPERATED BY ECU TRANSIT".

You can search for an employee by entering their first or last (or both) name(s) into the **Search** bar and clicking the **Search** button. The table will then populate with the results of the search. To clear your search, and return to the complete list of employees, click the **Clear** button.

Edit Account

An employee is able to edit their own account details, as well as change their password in the Edit Account form. To reach the Edit Account form, simply click on the **Edit** button next to your email address in the Employees table.



Admin users are able to edit any account. If a user forget's their password, an Administrator may change their password. We suggest the user then change their password for increased security.

Logout

To log out of the TransiTracker application, simply click the **Logout** button in the top right of the window. If the **Logout** button is not present, then you are not currently logged in.