ICTC Inventory Management and Verification System

Documentation

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Inventory Management And Verification System

Project Description

ICTC inventory management system is an application that helps to keep track of inventory in the ICTC building, Pulchowk Campus. This is basically a CRUD system for Floor, Room, Category, Item and User. It has a Dashboard which shows the Number of working items, out of order items and the items that need to be repaired. Items are further classified under the basis of the room and their category. New items can be added. Items in the database can be searched using an advanced search feature. Room, Floor and category can be created or modified by changing the settings. Items can be downloaded in csv format on the basis of their category as well.
In this system the users can:

- View the Dashboard
- Add new Item
- Search for existing Item
- Add, edit or delete room, floor, category in the settings
- Download CSV on the basis of category.

Project Setup

To run the project on your local machine, follow the instructions given below:

Install Required Packages

- Clone the Repository in the required directory from Github. Repository link (https://github.com/s1sayoush/ICTC.git)
- Enter command “python -m venv env” followed by “./env/scripts/activate” to create a virtual environment and activate the virtual env. (For Windows ⊞)
- Enter Command “pip install -r requirements.txt” to install all the dependencies. Requirement contains:
    - Django==2.2.7
    - django-crispy-forms==1.8.0
    - psycopg2
    - pytz==2019.3
    - sqlparse==0.3.0

Creating Database using PgAdmin

- Install PgAdmin
- Create a new PostgreSQL database under Servers and define its properties..

Initial Backend Setup

Add the dump file ‘ICTCdumpfile’ into the database initially for testing purposes.

- Go to the directory containing bin of PostgreSQL
- Open the terminal and enter “psql -U”
- Enter \i “path of dumpfile”

Running the project

- Go to the project directory and activate the virtual env
- Enter following commands
    - python manage.py makemigrations
    - python manage.py migrate
    - python manage.py createsuperuser and add an admin user
    - python manage.py runserver
    - Open 127.0.0.1:8000 on your browser and login with admin credentials

Tech Stacks Used

Django

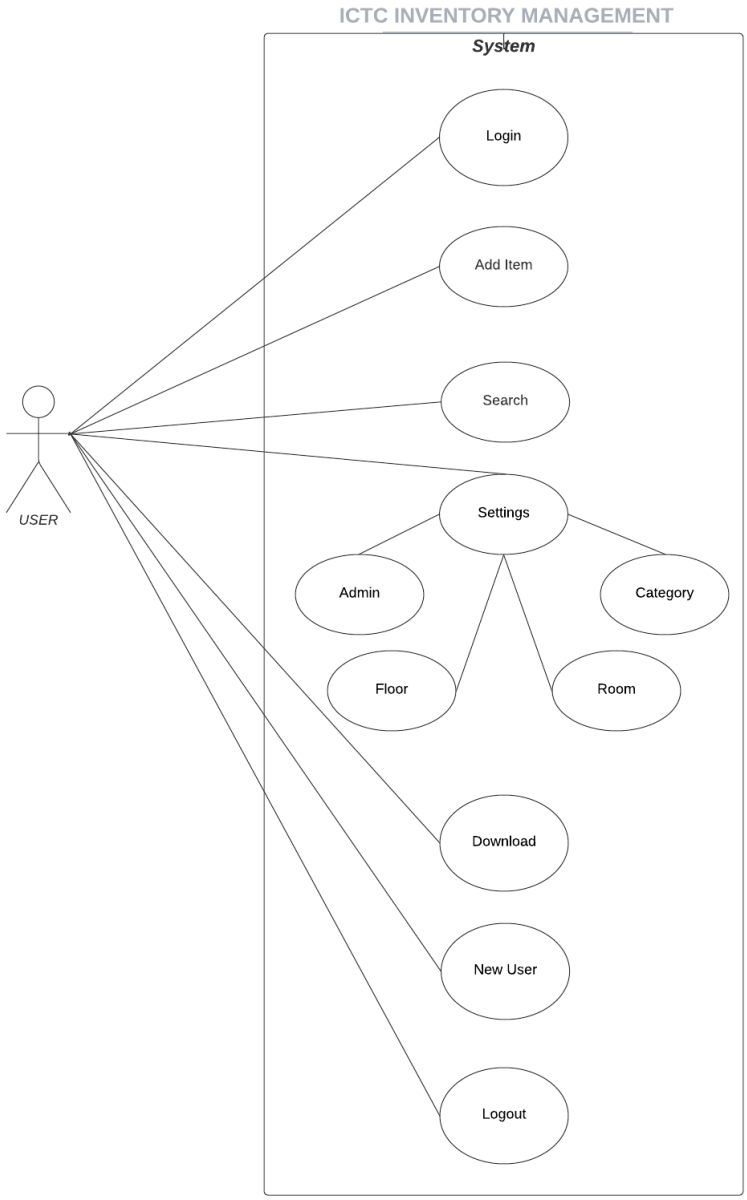
The project is made using Django. Django is a high-level Python web framework that encourages rapid development and clean, pragmatic design. Built by experienced developers, it takes care of much of the hassle of web development, so you can focus on writing your app without needing to reinvent the wheel. It's free and open source. To lean Django, check out documentation at (https://www.djangoproject.com/)

Database

This application uses PostgreSQL database infrastructure. PostgreSQL is a powerful, open source object-relational database system that uses and extends the SQL language combined with many features that safely store and scale the most complicated data workloads. The origins of PostgreSQL date back to 1986 as part of the POSTGRES project at the University of California at Berkeley and has more than 30 years of active development on the core platform.

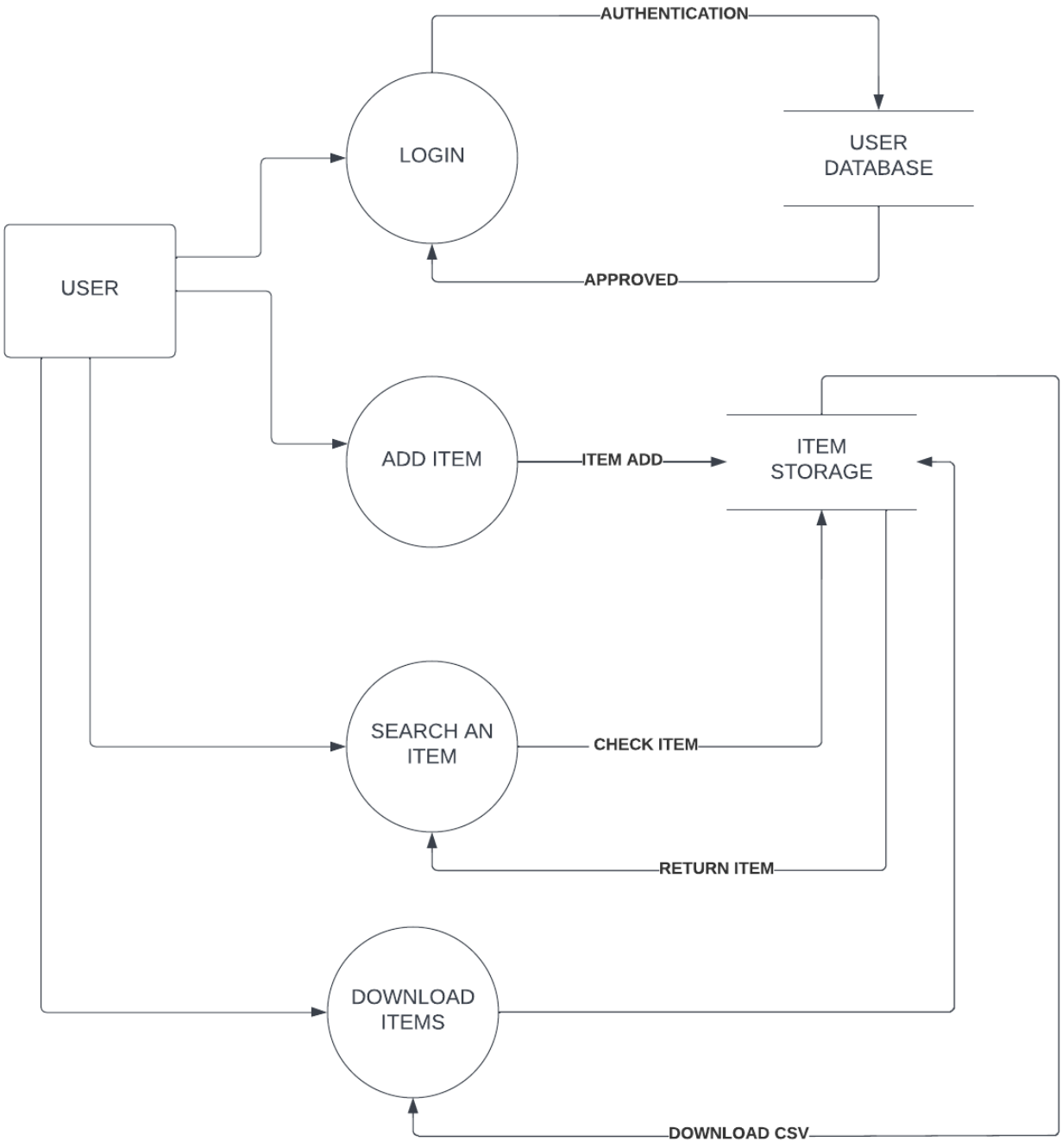
Use Case Diagram

A use case diagram is a way to summarize details of a system and the users within that system. It is generally shown as a graphic depiction of interactions among different elements in a system. Use case diagrams will specify the events in a system and how those events flow, however, use case diagrams do not describe how those events are implemented.



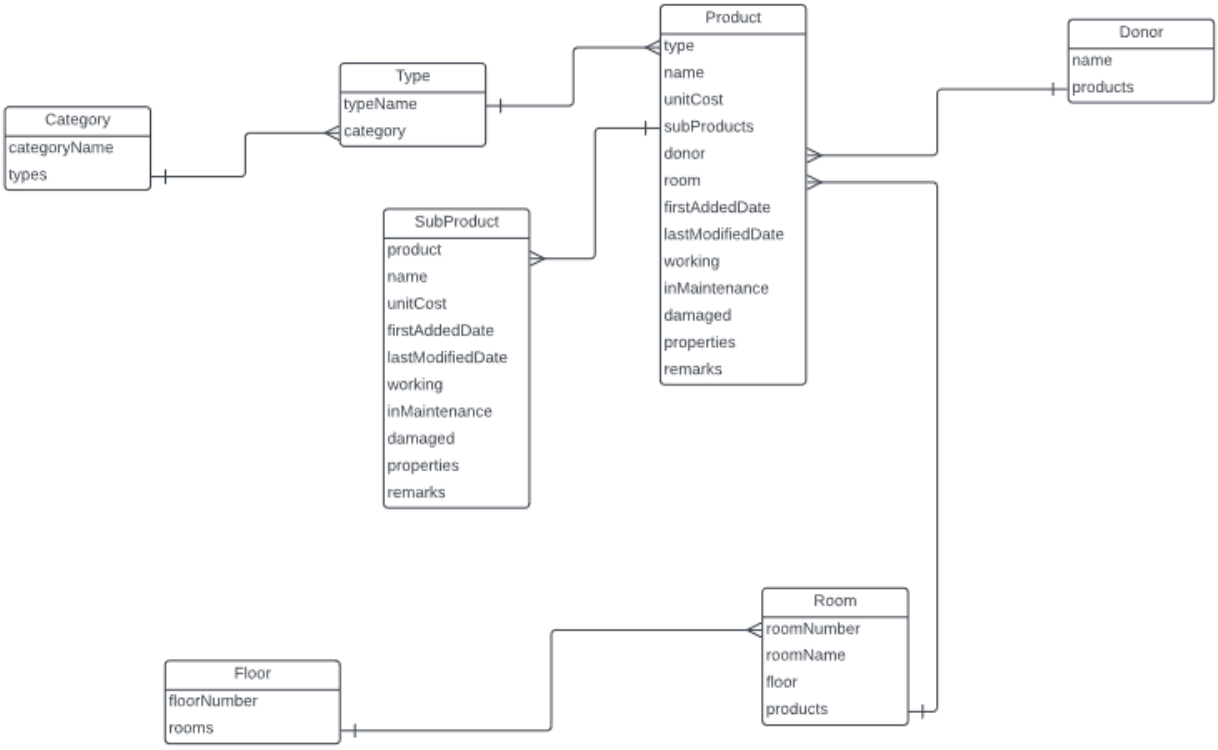
Data Flow Diagram

A data flow diagram (DFD) maps out the flow of information for any process or system. It uses defined symbols like rectangles, circles and arrows, plus short text labels, to show data inputs, outputs, storage points and the routes between each destination.



Entity Relationship Diagram

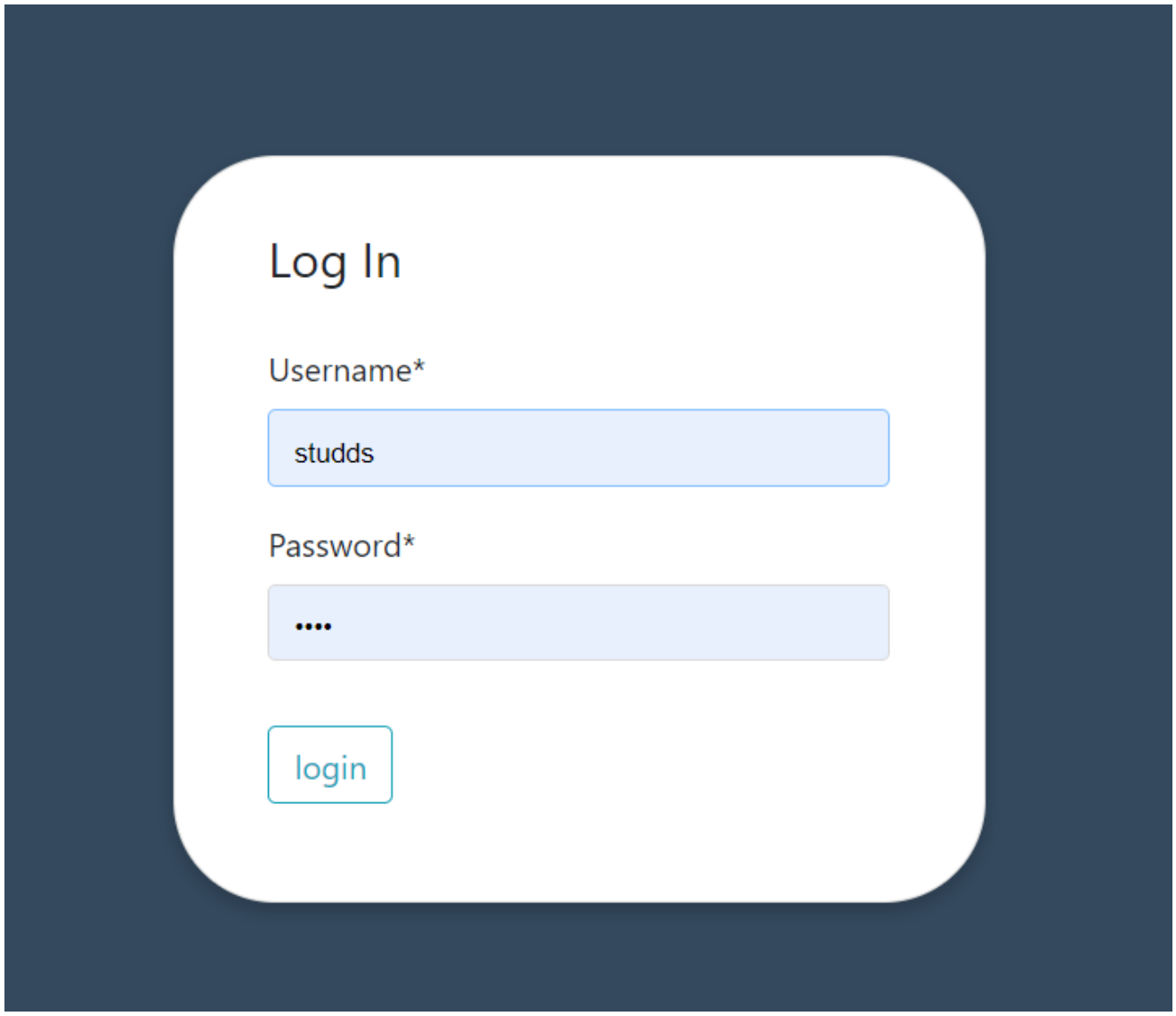
A data flow diagram (DFD) maps out the flow of information for any process or system. It uses defined symbols like rectangles, circles and arrows, plus short text labels, to show data inputs, outputs, storage points and the routes between each destination.Also known as ERDs or ER Models, they use a defined set of symbols such as rectangles, diamonds, ovals and connecting lines to depict the interconnectedness of entities, relationships and their attributes.



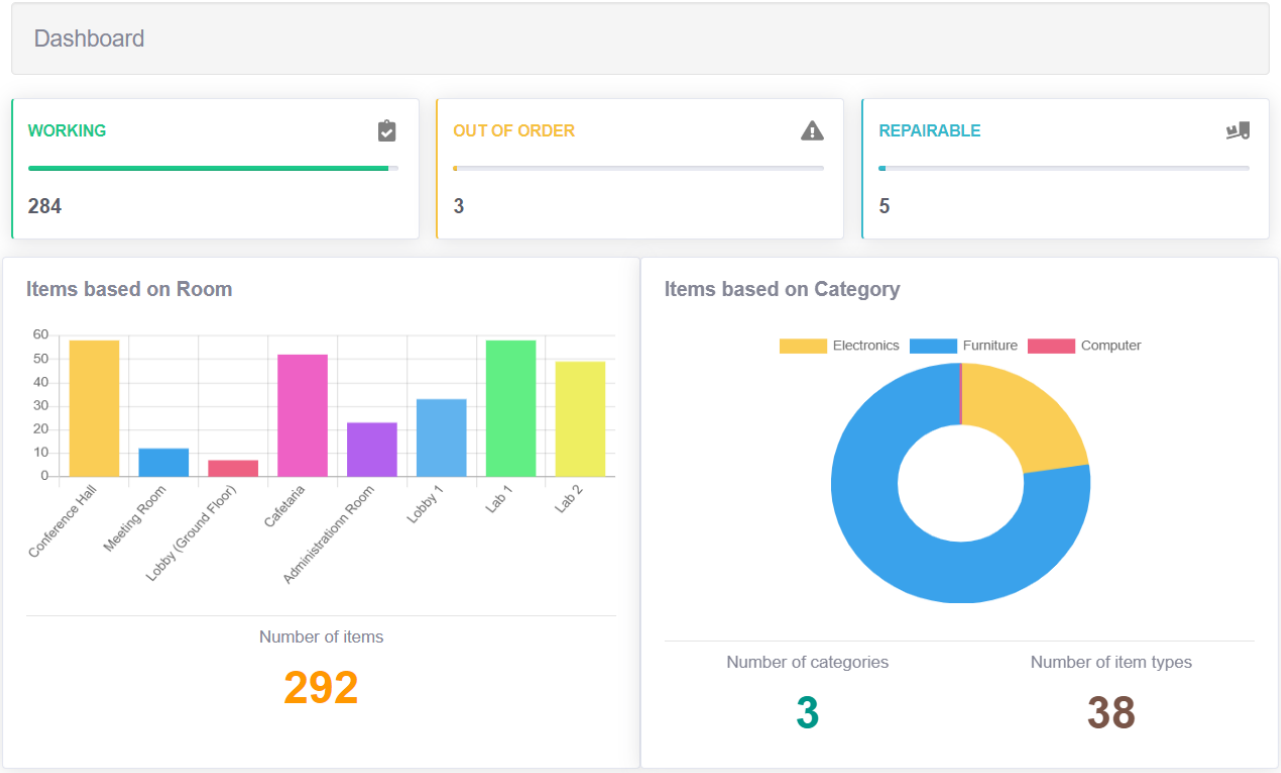
User Manual

LOGIN

Enter the Username and Password to login.



DASHBOARD

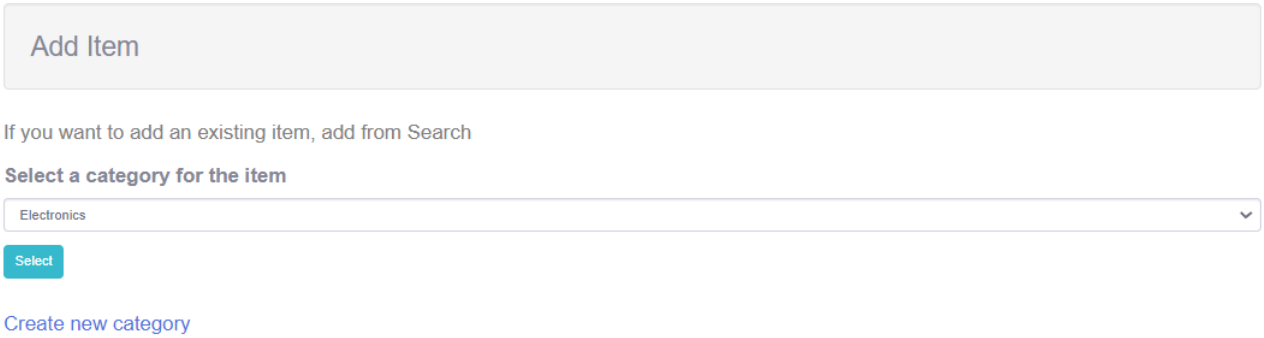


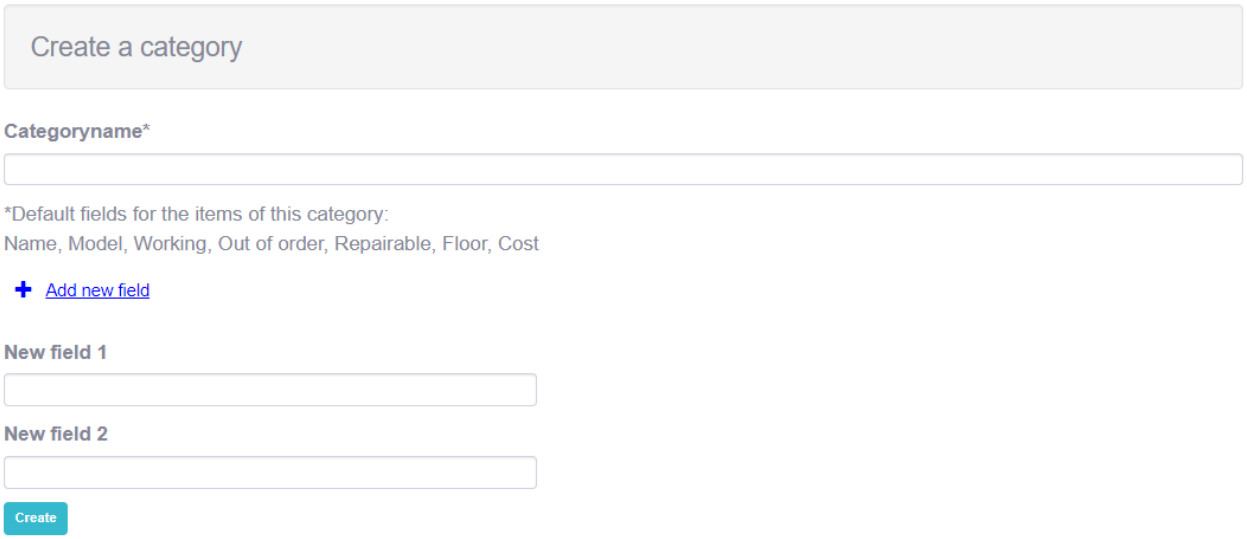
After logging into the website, the user will be taken to Dashboard. Here User can see the overview of the inventory in the ICTC building. User can view the Number of items that are:

1. Working
2. Out of Order
3. Repairable

Additionally, users can View the Number item in different rooms across the building in a bar diagram. Users can also view Number of items based on Category in a pie chart as well.

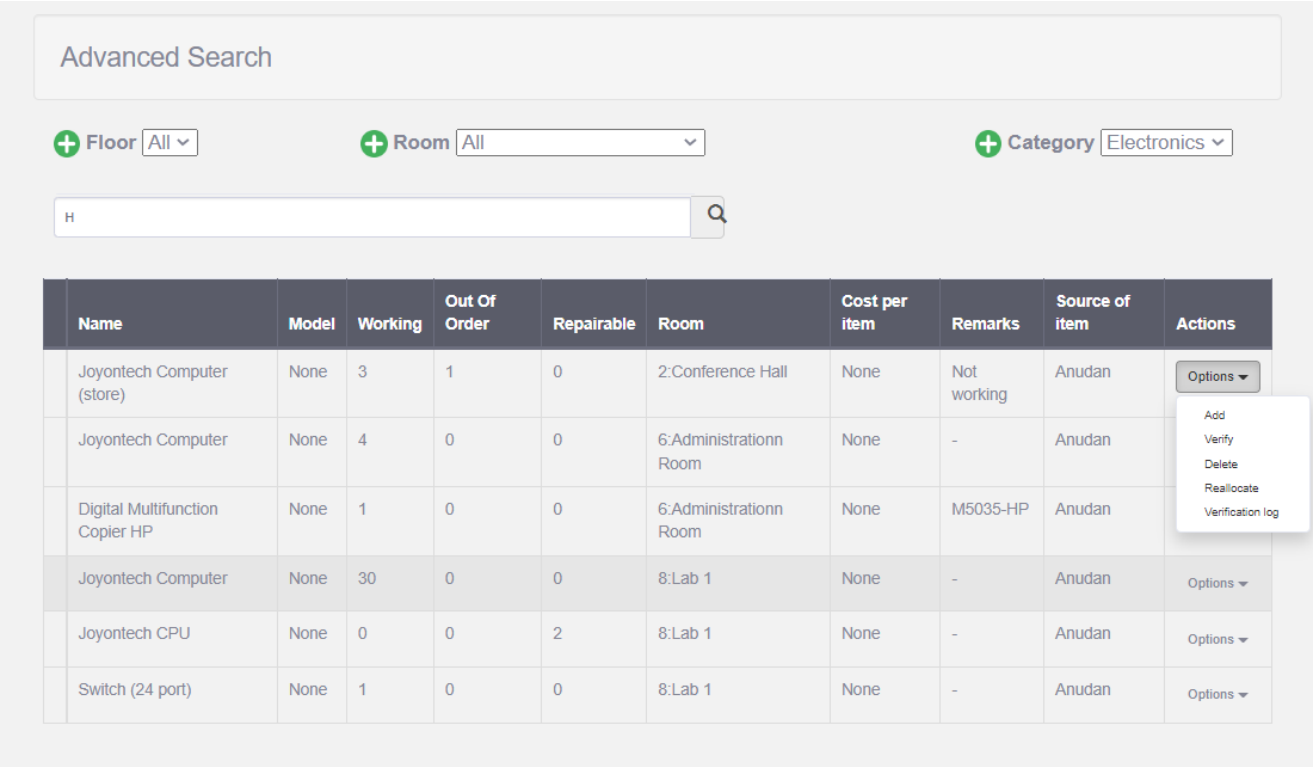
ADD ITEM





An item is the actual product in the inventory that we are keeping track of. From the 'Add Item' page we can add a new item in the inventory. But before adding the item we need to assign it a floor and a room. If the item is added in a preexisting room and floor, just a category name field is sufficient, while, if the item is to be added on a new floor or a new room then we need to create such a floor or a room or both before actually adding the item in the inventory.

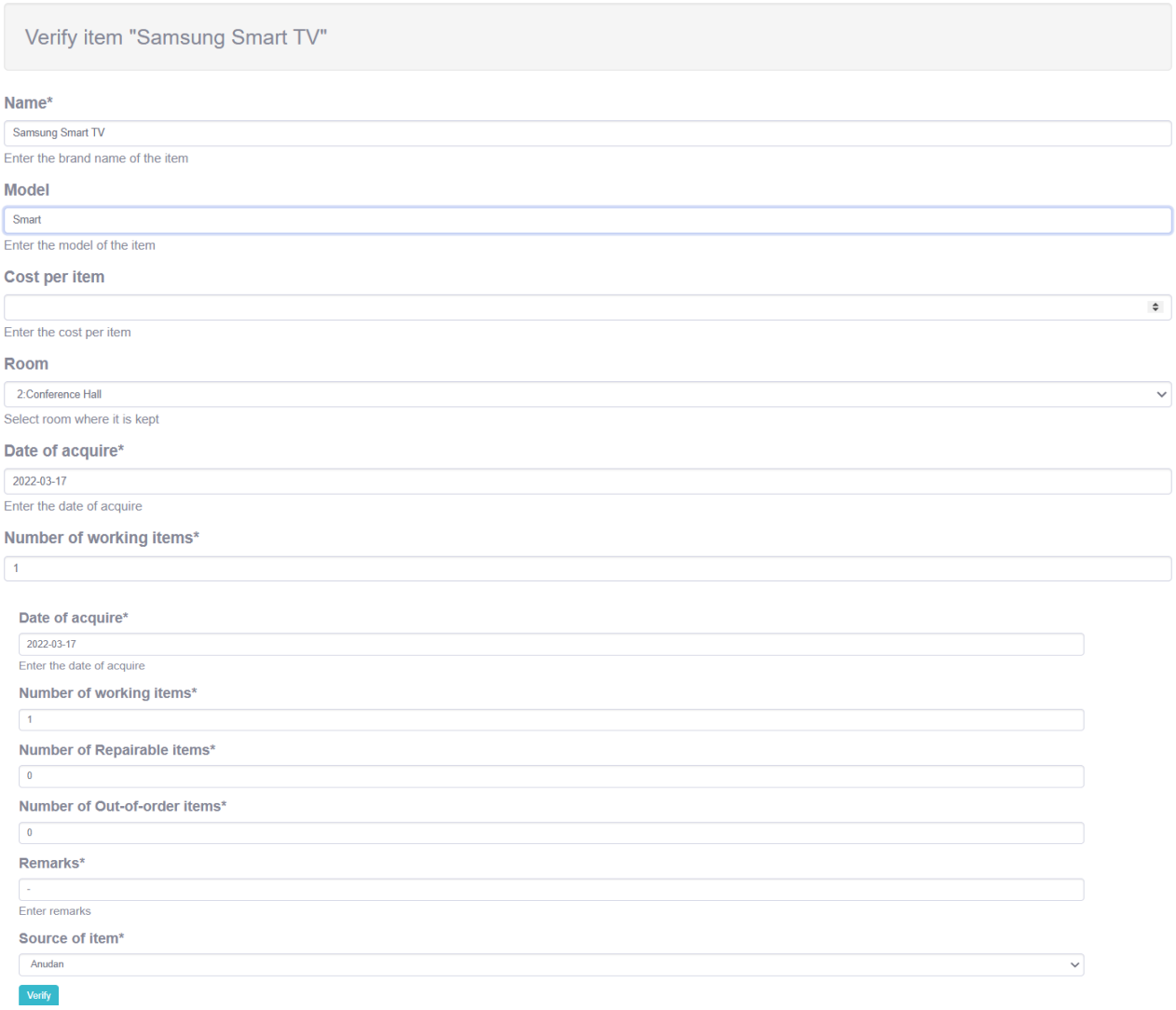
SEARCH



It is an important page of the website. All the existing products in the inventory can be searched from this page. Also all the available products in each and every floor and room can be searched at once. In order to navigate through search, if a particular item is to be searched then we can simply type the name in the search box. This scans the entire inventory for the requested search. While if we just want to search a particular room or floor then we can just search for that room and floor number.

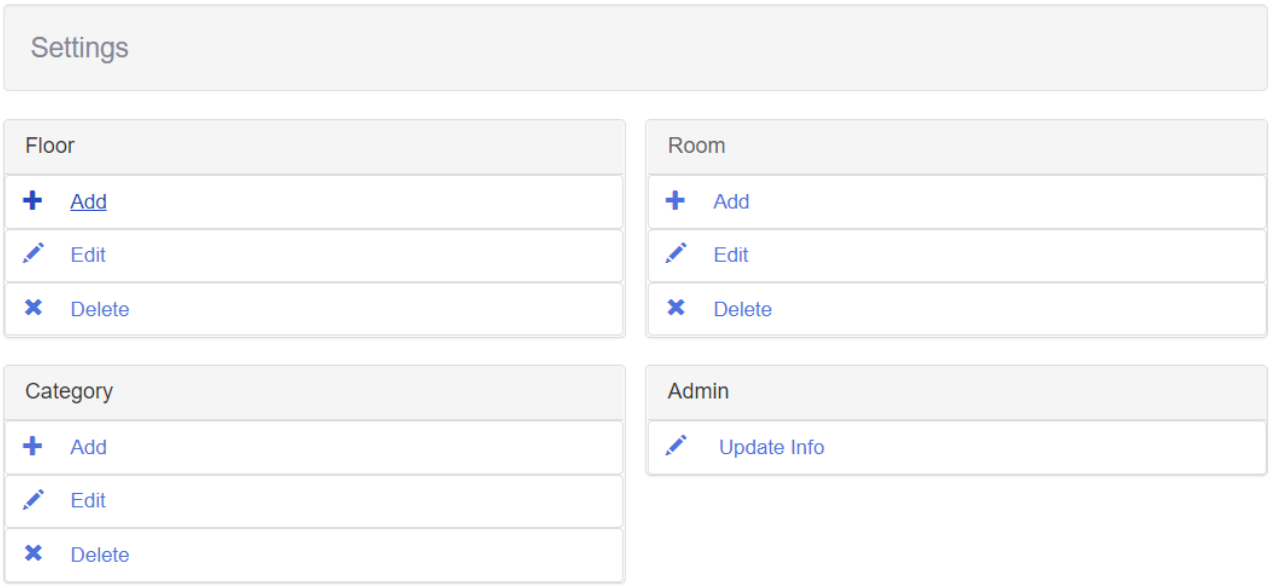
We can also add to the floor and room from the particular searched item along with delete the item, reallocate and go to the verification log all from the options menu in the actions tab.

VERIFY ITEMS



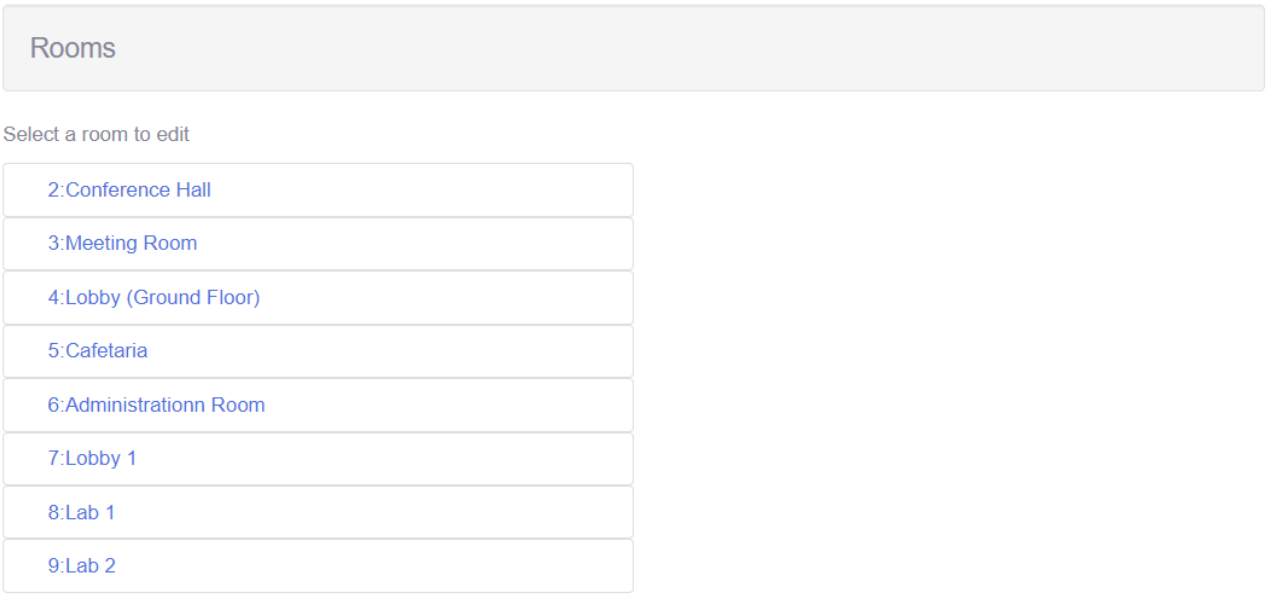
The actual presence of an item in the inventory needs to be verified by someone in the inventory. Thus, in the verify page we submit a request for the verification about a particular item in the inventory, which is checked and verified by someone and returns the information about the presence or absence of that item in the inventory.

SETTINGS

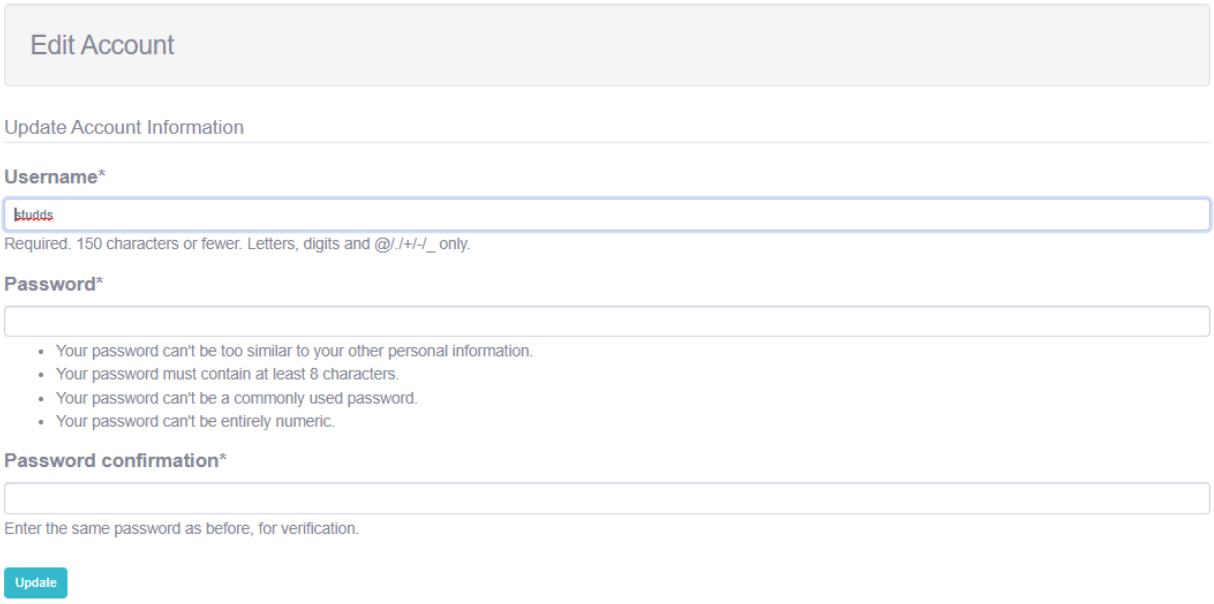


This is a very important part of the system. A floor and room is a necessity before entering any item in the database so add floor and room to the system if it is not already added. Now you can add items. Here you can perform following operations to Floor, Room and Category:

- Add
- Edit
- Delete

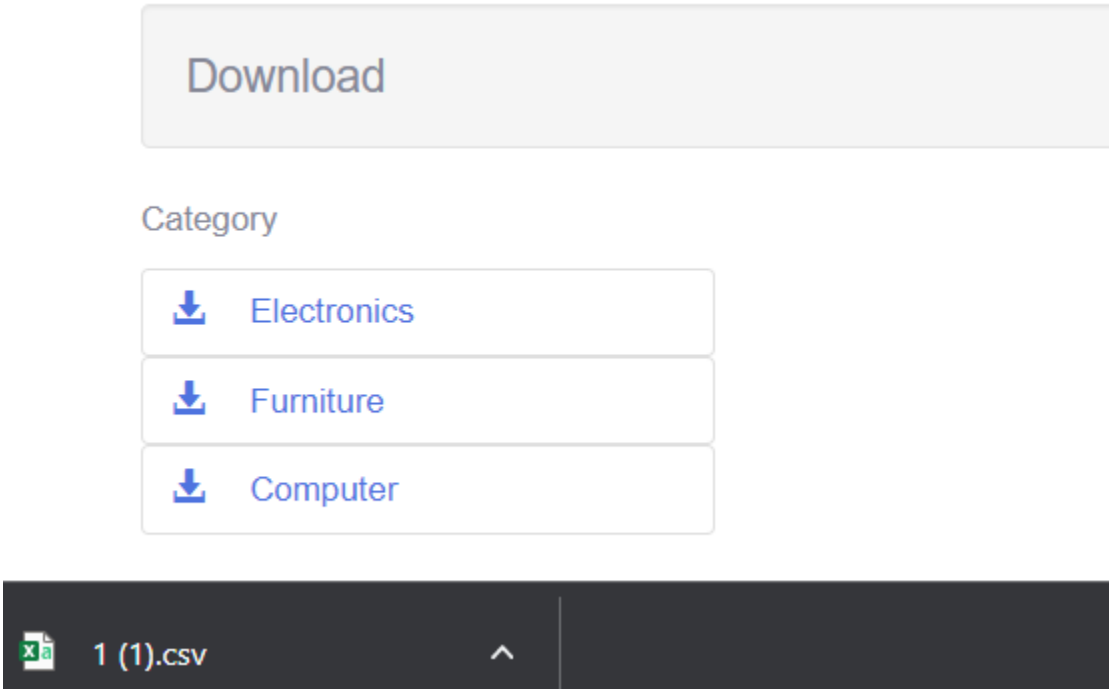


Rooms can also be edited by clicking on the edit option. This will allow us to edit the pre-existing rooms. Similarly add will allow us to create new rooms and delete will allow us to delete pre-existing rooms.



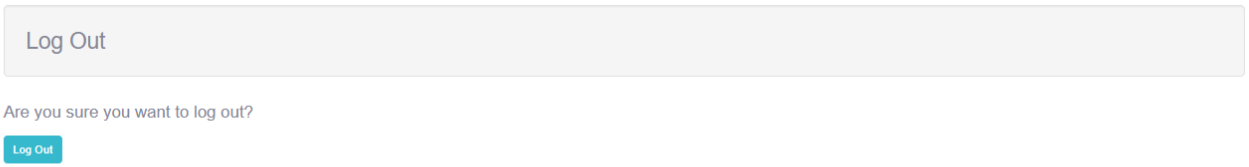
We can also change the admin info in the settings i.e change the username and password login for the admin.

DOWNLOAD



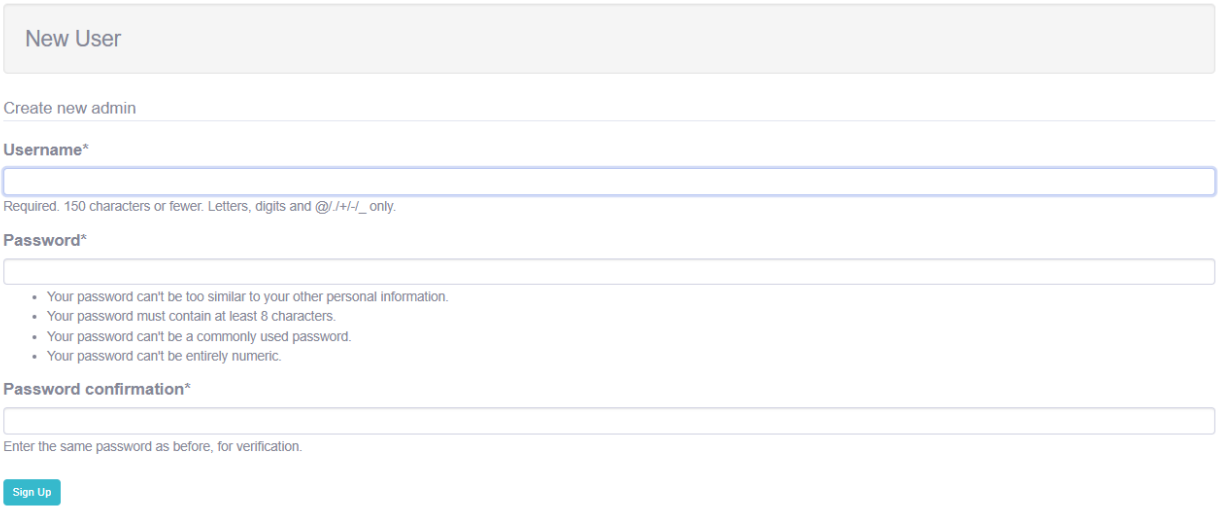
CSV files can be downloaded from the download section. Users can download csv directly from the website which is based on the category of items. CSV files can be further used in other applications to work with the data.

LOGOUT



Users can log out by clicking log out.

NEW USER



A super user is created during the initial setup of the website. New Users can be added to the website. New users have all the privileges of an admin hence they are also admin.

Links

https://github.com/s1sayoush/ICTC

https://www.djangoproject.com/

https://lucid.app/

https://www.postgresql.org/

https://ictc.ioe.edu.np/

https ://lict.ioe.edu.np/profile/Aman/