

User manual

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1. Introduction

The software is a web-based booking platform for greenhouses (Phytotron).

According to user feedback, the main problem currently lies in the fact that the manual method of booking greenhouses is inefficient, time-consuming and prone to errors. The main goal of the software is to streamline the booking process and ensure efficiency and accuracy. Therefore we will optimize the functionality in the following areas:

1. Visualization of Greenhouse reservations: This feature will allow users to easily see which greenhouses are available for booking, helping to prevent double bookings and making the process more user-friendly.
2. Transparent Fee Structure: The platform will provide clear information about the costs associated with booking a greenhouse, which is essential for budget planning and financial transparency.
3. Integrated Payment Solutions: By incorporating payment mechanisms within the platform, the software aims to facilitate timely payments, thereby reducing the administrative burden associated with managing these transactions.

The primary users of the system are faculty, staff, researchers, and students who need greenhouse space for work or study. So we planned to improve their experience by simplifying the use process as much as possible, making it more efficient and less error-prone than the existing manual system.

2. Preparation for the start

- 2.1. System Requirements: Windows or Mac

2.2. Editor: Visual Studio Code or Pycharm

2.3. Dependency:

```
asgiref==3.7.2
Django==5.0.1
django-simpleui==2023.12.12
mysqlclient==2.2.4
pillow==10.2.0
sqlparse==0.4.4
tzdata==2024.1
reportlab
```

3. Installation Guide

3.1. Python 3.10.1:

<https://www.python.org/ftp/python/3.10.1/python-3.10.1-amd64.exe>

3.2. MySQL(In Windows):

<https://dev.mysql.com/downloads/file/?id=526084>

3.3. Navicat:

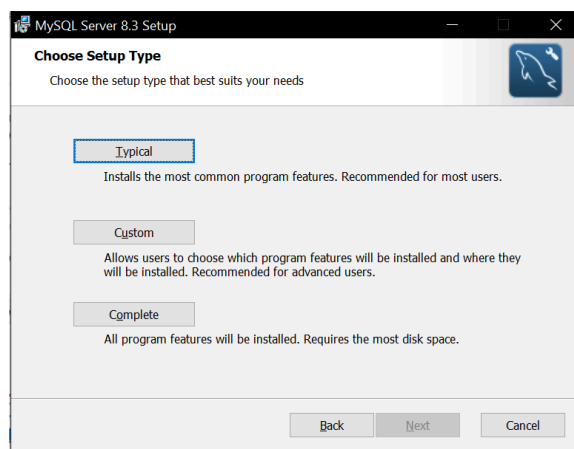
https://navicat.com/download/direct-download?product=navicat_premium_en_x64.exe&location=1

4. Basic Configuration

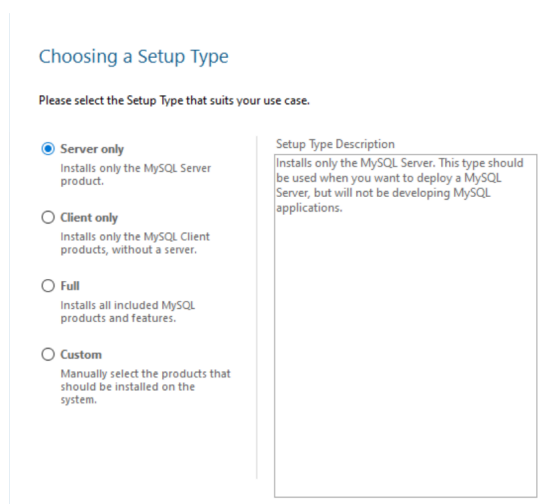
4.1. Configuring Dependency:

1. Open the terminal in the “Phytotron-main” folder
2. Type and execute “pip install -r requirements.txt”

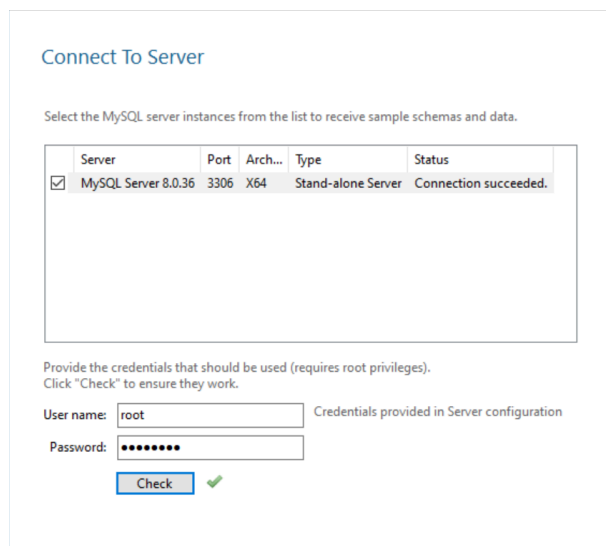
4.2. Configuring MySQL



1. Select “Typical”



2. Select “Server only”



3. Remember the password you type

4.3. Configuring “setting.py”:

1. Open the “Phytotron-main.zip” file
2. Navigate the “login” folder

3. Open the “setting.py” with the editor
4. Modify the “DATABASE” part
 - a. The password is the same as the one you used to configure Mysql.

4.4. Configuring Navicat:

1. Connection a new MySQL
2. Create a new database, ensuring the database name matches the name specified in the Settings.py under 'DATABASE'.
3. Right click on your newly created database and select "run a SQL file", located at "Phytotron-main->SQL".

4.5. Configuring Django Project:

1. Choose to open Phytotron-main with an editor
2. Type and execute: “python manage.py makemigrations”
3. Type and execute: “python manage.py migrate”
4. Type and execute: “python manage.py runserver”

5. Guidelines for use

- 5.1. User Login and Registration Page: <http://127.0.0.1:8000/> and <http://127.0.0.1:8000/register/>
 - 5.1.1. The user needs to email the Phytotron team for a request form, which is the user's credentials to Phytotron, and needs to be filled out with personal information for all applicants on the application team.
 - 5.1.2. After filling out the form, the user needs to send it back to the Phytotron team for the record.
 - 5.1.3. Access to Phytotron requires you to complete the Phytotron training course on the Onq webpage. Upon completion of the training test, you will receive a certificate from Phytotron.
 - 5.1.4. Go to the registration website and fill in your name, email address, role, supervisor name and password. Also submit the

certificate given by Phytotron. Then wait for the Phytotron team to review it.

5.2. Main Page: <http://127.0.0.1:8000/main>

- 5.2.1. When users are making a reservation, the first choice they encounter is selecting between a greenhouse or a growth chamber. These two distinct options guide the user to fill out different application forms.
- 5.2.2. First comes the greenhouse, which is divided into 5 zones. The first zone is not open to the public. Except for the fourth zone, which has 10 benches, each zone has 5 benches. After selecting a zone, users must choose the number of workbenches they require.
- 5.2.3. The growth chamber consists of 26 zones, and each zone does not have specifically designated workbenches. The last zone is referred to as "the oven."

5.3. My Page: <http://127.0.0.1:8000/mypage>

- 5.3.1. The first part you can see your booking history and download your invoice of your each booking
- 5.3.2. The second part your can change your username
- 5.3.3. Last Part you can change your password

5.4. Reservation Page:

- 5.4.1. Choose a greenhouse or a growth chamber.
- 5.4.2. The greenhouse is divided into 5 zones, the first of which is not open to the public. Each zone has 5 benches, except for zone 4 which has 10 benches. Users must select the number of benches they want after selecting a zone. The growth chamber consists of 26 zones, each with no designated benches, and the last zone is called the "oven".
- 5.4.3. After filling out all the necessary information, users also need to check two agreements before submitting. It is worth noting that after selecting a time period for their project, there is a

mandatory cleaning day which occurs the day after the project ends and cannot be booked.

- 5.5. Admin: <http://127.0.0.1:8000/admin>
 - 5.5.1. Username: admin
 - 5.5.2. Password: zhangsan@123
 - 5.5.3. The home page gives you a dashboard view where you can quickly navigate to important sections of the admin panel:
 - 5.5.4. Groups: a place where you can manage user groups, permissions, or roles.
 - 5.5.5. Account management: Manage user accounts, including View, modification, or deletion.
 - 5.5.6. Orders: View and manage orders placed within the system. This could include processing refunds, verifying payments, or updating order statuses.
 - 5.5.7. Prices: Set or adjust pricing for the items offered in the rooms.
 - 5.5.8. Research requests: Possibly a section to manage requests for booking.
 - 5.5.9. Recent Actions This section tracks the latest activities of the website

6. Maintenance recommendations

- 6.1. Running Unit Tests:
 - 6.1.1. To check for any discrepancies in the application, we've written a comprehensive suite of unit tests. You can run these tests to verify that all components of the application are functioning correctly. Open a terminal, navigate to the directory where the application is located, and execute the following command:
“python manage.py test”
- 6.2. Error Logging:
 - 6.2.1. In the event of an error, the application is configured to log an error message automatically. Should you encounter any issues

or unusual messages, do not hesitate to reach out for support. Contact our team via email, and we'll be glad to assist you.

7. Known limitations and workarounds

7.1. Limitation: Incompatible with Older Browsers

7.1.1. Details: The application is optimized for the latest versions of Chrome, Firefox, and Safari. Users might experience reduced functionality or display issues with older browser versions.

7.1.2. Workaround: We recommend users to always use the latest version of supported browsers. If you encounter issues, update your browser or switch to a supported browser.

7.2. Limitation: Maximum File Upload Size

7.2.1. Details: The application currently restricts the size of file uploads to 100MB.

7.2.2. Workaround: If you need to upload large files, please split them into smaller segments where possible, or compress them to meet the upload size requirements.

7.3. Limitation: Language Support

7.3.1. Details: The application is currently only available in English.

7.3.2. Workaround: Non-English speaking users may use translation tools as a temporary measure. Full multi-language support is a priority for our development roadmap.

7.4. Limitation: Mobile Application Unavailability

7.4.1. Details: Currently, there is no dedicated mobile application; the platform is accessible only through a web browser.

7.4.2. Workaround: For the best mobile experience, users are encouraged to access the application via their mobile device's web browser. The website is fully responsive and optimized for mobile use. We recommend bookmarking the website for easy access and ensuring your browser is updated to the latest version for optimal performance.

8. Brief summary of updates to previous documents

After communicating with the customer, we have made the following changes and additions:

1. There are changes to the data structure and the booking page: the original 6 Greenhouse zones have been modified to have five benches each, with zone 5 having 10 benches. Additionally, a user can now book multiple benches within the same zone.
2. Two agreements have been added to the booking form to ensure users understand them before making a reservation.
3. A "how to use" page has been added for users accessing the website for the first time, which will show how to get in touch with the training course and how to activate booking privileges; only qualified users can make bookings.
4. The user registration page now includes a field for associated professors, requiring users to specify the professor they are associated or interacting with.
5. For the invoice generation feature, a management function has been added, allowing administrators to add the items used and their quantities for each booking order, facilitating invoice calculation.

9. Appendix

9.1. Django

Tutorial: <https://docs.djangoproject.com/en/5.0/intro/tutorial01/>