

User Manual

Production Scheduling System

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1 Introduction

The Production Scheduling System is an application that increase the efficiency and reduce the time cost of Tulkoff product line scheduling. The program takes the csv files of cases needed report and product listing as inputs, and outputs an downloadable efficient schedule for the production lines.

2 Installation

To install and run the program locally, first you should download the latest version of python 3 from <https://www.python.org/downloads/>. If you care about avoiding dependency conflicts, you can look into <https://python-guide-cn.readthedocs.io/en/latest/dev/virtualenvs.html> for virtualenv.

Open a command window. To open a command prompt in a specific location, you can press and hold the Shift key, then right click or press and hold on a folder or drive that you want to open the command prompt at that location for, and click/tap on "Open Command Prompt Here" option. Enter python command in command prompt. If the command is not recognized, then we need to set the environment variables. Rightclick on "This PC" and select properties. Click on "Advanced system settings", then click "Enviroment Variables". A new window will pop up. Under "System variables", Find the PATH variable and click Edit. Add Python to this PATH variable by adding the location where python is installed to the end of that string. For example it could be "C:\Program Files\Python37". If you are not sure about the location, you can search for the location of python.exe. The location of python.exe is the path to Python.

Then we can use python to run the program. Direct to the project folder and open a command prompt. Then enter the command lines:

```
cd backend
pip3 install -r requirements.txt
```

After downloading the required packages, direct to the backend folder and double click on run.bat. The command prompt will display message as shown below.

```
* Serving Flask app "app" (lazy loading)
* Environment: production
  WARNING: Do not use the development server in a production environment.
  Use a production WSGI server instead.
* Debug mode: on
* Restarting with stat
* Debugger is active!
* Debugger PIN: 264-451-849
* Running on http://127.0.0.1:8080/ (Press CTRL+C to quit)
```

Once the server is running, direct to the frontend folder and click on home.html to run the web app.

3 System Features

To run the program, click on the Schedule tab at top. The screen displays as shown below.

Instructions

Click the choose buttons to upload product the item listing file and the case needed report file.
Click the Submit button to get the schedule!

Upload and Submit

Case Needed Report:

No file chosen

Product Item Listing:

No file chosen

Status Update Logs

Files not submitted.

Schedule

Filename: .csv

Tenative schedule will show up here once prediction finished.

In the Upload and Submit section, you can upload the required files as csv form. After uploading files, click submit. The process information will show in the Status Update Logs section. If the process is successful, it will display message as shown below.

Upload and Submit

Case Needed Report:

cases_needed.csv

Product Item Listing:

product_listing.csv

Status Update Logs

Files not submitted.

Files are submitted. Waiting for a schedule!

Response received. Fetch succeeded.

After the program outputs the optimized schedule, you can download the schedule as a csv file in the Schedule section.

Schedule

Filename: .csv

Tentative schedule will show up here once prediction finished.