

User Manual

Lottery Ticket Checker (TOTO & 4D)

1. Introduction

The Lottery Ticket Checker allows users to check **Singapore Pools TOTO and 4D tickets** by simply uploading a photo of the ticket.

The system automatically reads the numbers using OCR (Optical Character Recognition) and shows whether the ticket has won any prizes.

2. Installation and Setup

2.1 System Requirements

To use the Lottery Ticket Checker, the following are required:

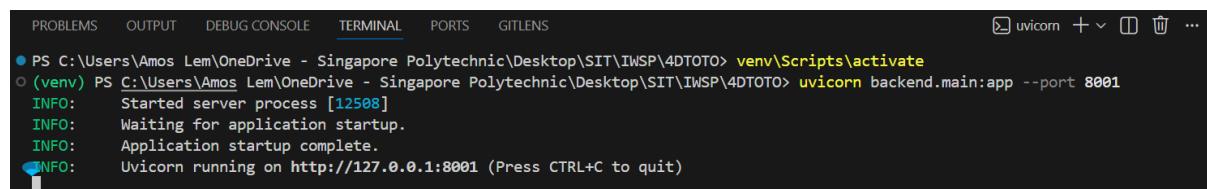
- Python 3.9 or later
- Tesseract OCR installed on the system
- A modern web browser (Chrome, Edge, or Firefox)
- Internet or local network access (for frontend-backend communication)

2.2. Starting the Application

Step 1: Start the Backend

Open a terminal and run:

```
uvicorn backend.main:app --port 8001
```



A screenshot of a terminal window titled "uvicorn". The window shows the command "uvicorn backend.main:app --port 8001" being run. The output of the command is displayed, showing the application starting up successfully on port 8001.

```
PS C:\Users\Amos Lem - Singapore Polytechnic\Desktop\SIT\IWS\4DTOTO> venv\Scripts\activate
(venv) PS C:\Users\Amos Lem - Singapore Polytechnic\Desktop\SIT\IWS\4DTOTO> uvicorn backend.main:app --port 8001
INFO:     Started server process [12508]
INFO:     Waiting for application startup.
INFO:     Application startup complete.
INFO:     Uvicorn running on http://127.0.0.1:8001 (Press CTRL+C to quit)
```

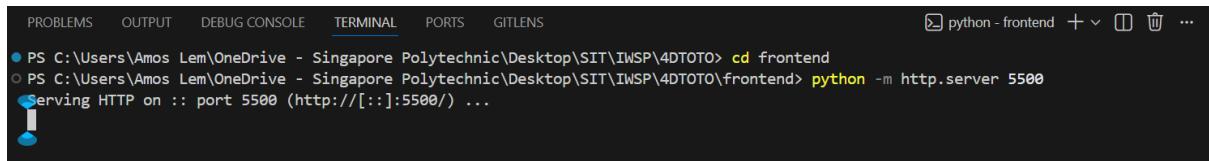
(Note: Is not a must to install venv for end-users)

Step 2: Start the frontend

Open another terminal:

```
cd frontend
```

```
python -m http.server 5500
```



```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS python - frontend + ~ ⌂ ⌂ ...  
● PS C:\Users\Amos Lem\OneDrive - Singapore Polytechnic\Desktop\SIT\IWSP\4DTOTO> cd frontend  
○ PS C:\Users\Amos Lem\OneDrive - Singapore Polytechnic\Desktop\SIT\IWSP\4DTOTO\frontend> python -m http.server 5500  
Serving HTTP on :: port 5500 (http://[::]:5500) ...
```

Step 3: Open the Application

Open a web browser and go to:

<http://localhost:5500>

3. Running the Application

1. Ensure both backend and frontend servers are running.
2. Open the application in a web browser.
3. Select a preferred language using the language selector.
4. Upload an image of a TOTO or 4D ticket.
5. Click Check Ticket to process the image.
6. View the results displayed on screen.

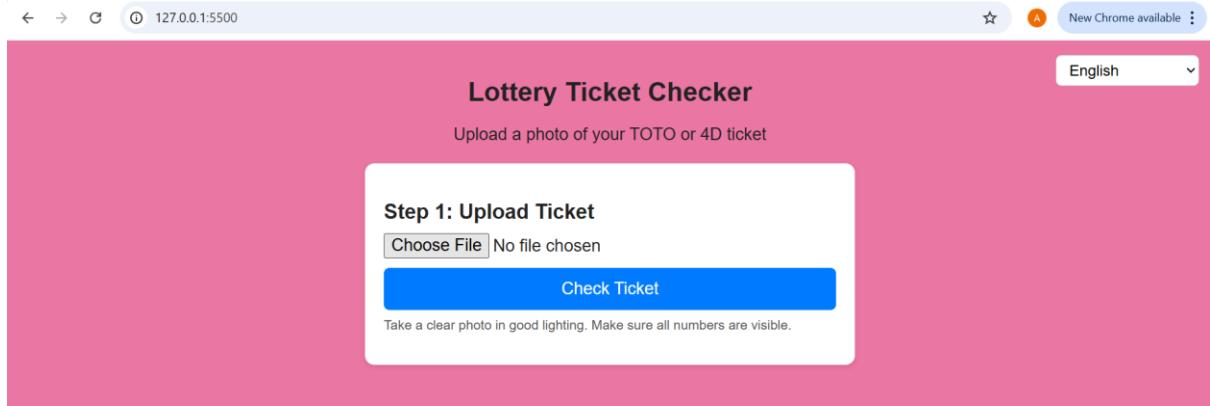
The system automatically detects the ticket type and processes it accordingly.

4. Main Screen Overview

On the main screen, users will see:

- A language selection menu (top-right corner)
- A file upload button
- A Check Ticket button
- Clear instructions and hints

The interface uses large fonts and high contrast for better readability.



5. Data and Results

5.1 Input Data

- Ticket images uploaded by the user (JPG or PNG).
- Images should be clear, well-lit, and not cropped.

5.2 Extracted Data

The system extracts:

- Game type (TOTO or 4D)
- Ticket numbers
- Draw date (best-effort extraction)

5.3 Result Output

The application displays:

- Detected game type
- Extracted ticket numbers
- Winning numbers (hard-coded for demonstration)
- Prize category (if applicable)
- Win or loss result

5.4 Ticket History

All processed tickets are stored in a local SQLite database and can be retrieved using:

GET /history

6. Predictive Analysis

This system **does not perform predictive analysis**.

Lottery outcomes are inherently random, and the application is intentionally designed **only for result checking**, not prediction. No statistical modelling, forecasting, or probability analysis is implemented.

This design decision ensures:

- Ethical use of the system
- Clear scope control
- Avoidance of misleading users

7. Testing and Troubleshooting

7.1 Testing Scenarios

The system has been tested with:

- Mock valid TOTO ticket images
- Mock valid 4D ticket images
- Blurred or low-quality images
- Incorrect ticket formats

Expected behavior:

- Valid tickets return correct results
- Invalid tickets return appropriate error messages

7.2 Common Issues and Solutions

Issue	Possible Cause	Solution
Backend not responding	Server not running	Restart backend server
Frontend cannot connect	CORS or port mismatch	Ensure backend runs on port 8001
Incorrect OCR results	Poor image quality	Upload a clearer image
Ticket rejected	Invalid format	Verify ticket image

7.3 Supported Draw Date and Winning Numbers

Applicable Draw Date

This application currently supports one specific official draw date for demonstration purposes:

Draw Date: 20 January 2026

Only tickets that belong to this draw date will be eligible to win prizes in the system.

Supported TOTO Winning Numbers

For the draw dated 20 January 2026, the supported TOTO winning numbers are:

TOTO Winning Numbers:

1, 5, 12, 23, 34, 45

A TOTO ticket must contain these numbers (in any order) to be considered a winning ticket.

Supported 4D Winning Numbers

For the draw dated 20 January 2026, the supported 4D prize numbers are:

-  First Prize: 4109
-  Second Prize: 1234
-  Third Prize: 5678
-  Starter Prizes: 0001, 1111
-  Consolation Prizes: 2222, 3333

A 4D ticket wins if its number matches any of the prize categories listed above.

Important Notes for Users

- Tickets with a different draw date will not be considered winning, even if the numbers match.
- Winning numbers are fixed for demonstration purposes and are not updated automatically.
- This behavior is intentional to ensure predictable and stable system behavior during testing and evaluation.

7.3 OCR Accuracy Notes

OCR accuracy depends heavily on:

- Lighting conditions
- Image clarity
- Font readability

Users are encouraged to capture clear and straight images for best results.

8. Security and Compliance

8.1 Data Security

- Uploaded images are stored locally for processing only.
- No personal user data is collected.
- Ticket data is stored in a local SQLite database.

8.2 Network Security

- The application runs on localhost during development.
- CORS is enabled only for development purposes.
- No external APIs are called.

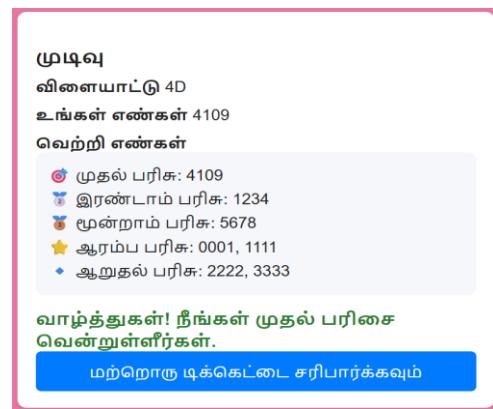
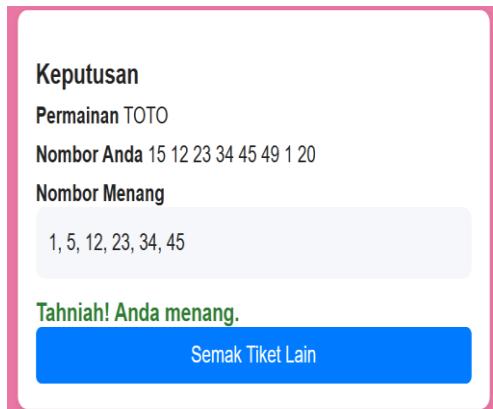
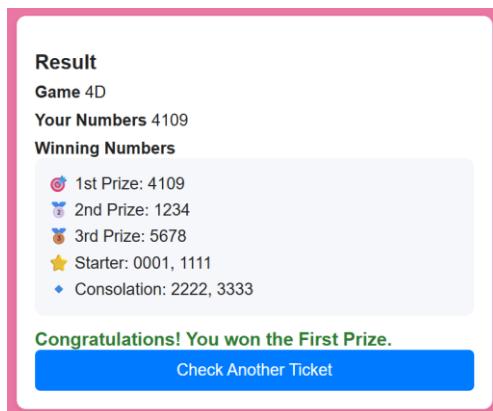
8.3 Compliance and Disclaimer

- This application is **not affiliated with Singapore Pools**.
- Winning numbers are **hard-coded for demonstration purposes**.
- The system should not be used for official or financial decision-making.

9. Accessibility Considerations

- Large fonts and high contrast UI
- Simple navigation
- Multi-language support:
 - English
 - Simplified Chinese
 - Bahasa Melayu
 - Tamil

These features improve usability, especially for elderly users.



End of Manual