

# Flash Card Application - Technical Documentation

## Overview

A simple flash card app for language learning with automatic card flipping and progress tracking.

## Main Purpose

Help users learn vocabulary through:

- Front/back card system
- 3-second auto-flip
- Right/Wrong tracking
- Progress saving

## How It Works

### 1. Setup Phase

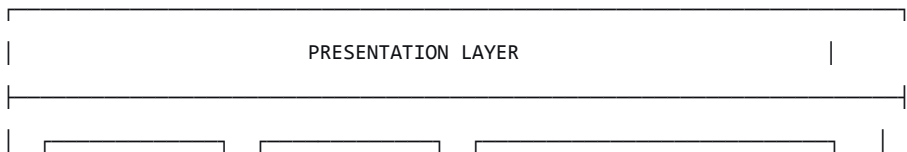
text

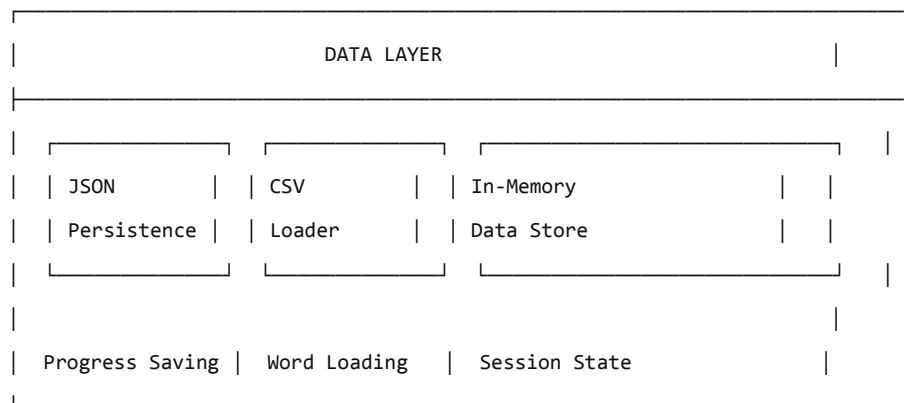
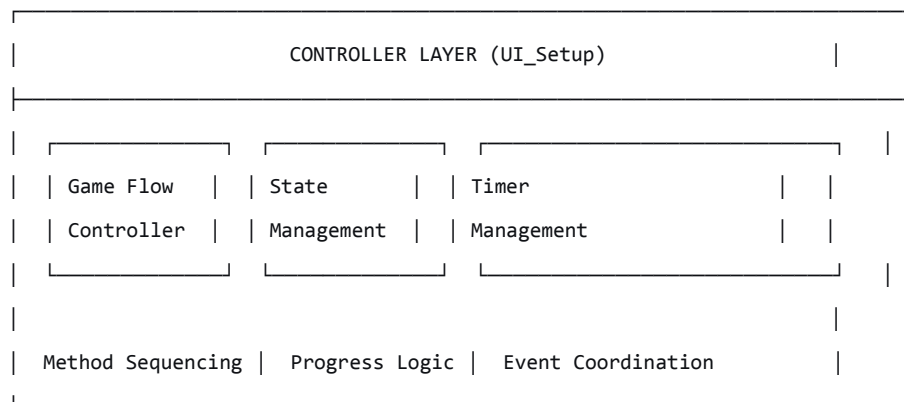
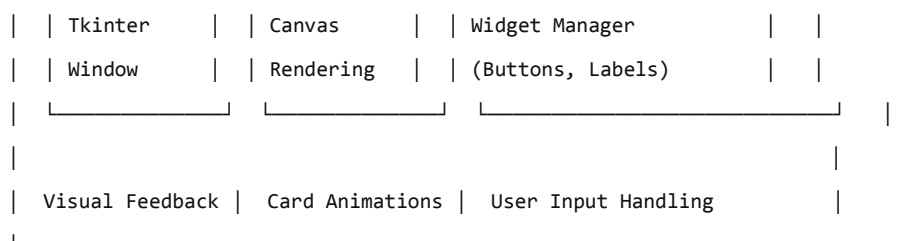
Start App → Load Words → Create UI → Show First Card

## System Architecture

### Three-Layer Architecture

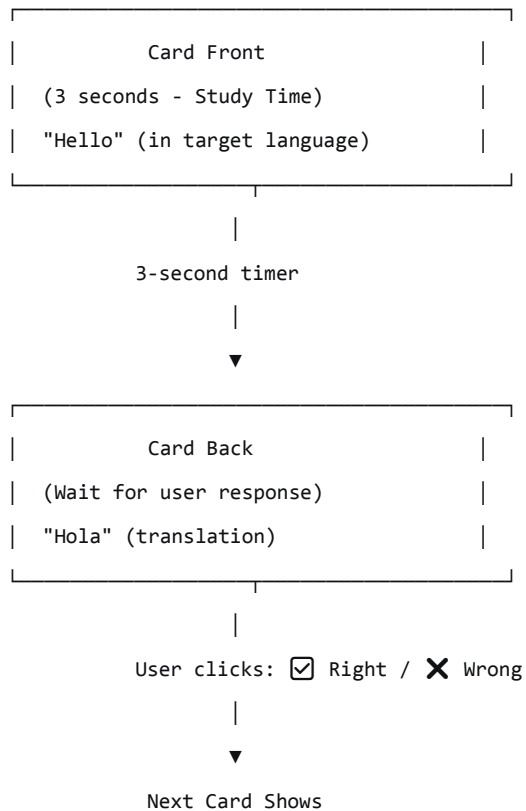
text





## 2. Card Display Flow

text



## 3. Progress Tracking

- Right answers: Mark word as "correct": 1
- Wrong answers: Word stays "correct": 0
- All progress saved to JSON file

## Data Format

json

```
[  
  {  
    "first language": "Hello",  
    "second language": "Hola",  
    "correct": false
```

```
}  
]
```

## File Structure

```
text  
flashcard_app/  
├── main.py           # Starts the app  
├── ui_setup.py       # Main logic (this file)  
├── data_filter.py    # Loads word data  
├── word_list.json    # Saves your progress  
└── words.csv         # Your vocabulary list
```

## Key Features

1. **Automatic Flip:** Cards flip after 3 seconds
2. **Progress Save:** Your answers saved automatically
3. **Score Tracking:** See how many you get right
4. **Reset Option:** Start over when all words learned

## Getting Started

### Quick Start:

1. Put your words in `words.csv`
2. Run `main.py`
3. Study the front of card (3 seconds)
4. See translation on back
5. Click ☒ if you knew it, **✗** if not
6. Repeat!

## CSV Format Needed:

```
text
first_language,second_language
Hello,Hola
Goodbye,Adiós
Thank you,Gracias
```

## Application Flow

### Simple Flow:

```
text
Start → Show Card Front → Wait 3s →
Show Card Back → Click Answer →
Save Progress → Next Card → Repeat
```

### Completion:

When all words are marked correct →  
Ask: "Restart?" → Yes/No

## Notes for Developers

### What's Special:

- Uses JSON for saving (not database)
- Can Use Simple CSV instead of pandas too
- Button state control (currently commented out)
- Timer-based card flipping

### If Modifying:

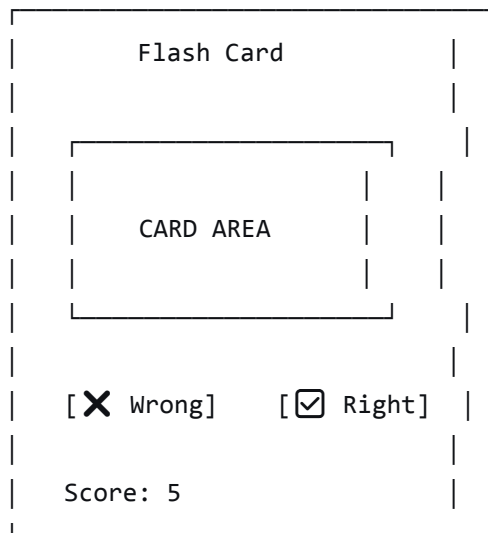
1. `Create_UI()` - Builds the screen
2. `NextWord()` - Processes answers
3. `FlipCard()` - Handles card flipping
4. `SaveProgress()` - Saves to JSON
5. `CheckReset()` - Handles game end

## Timer Note:

The `CheckCounterRunning()` method is commented out. It was designed to disable buttons during card flips but currently not active.

## UI Layout

text



## Saving Your Work

- Every answer saved immediately
- File: `word_list.json`
- Keeps track of which words you know
- Survives app restart

## Troubleshooting

### Common Issues:

1. **No words show:** Check `words.csv` exists
2. **Progress not saving:** Check file permissions
3. **App crashes on start:** Verify CSV format

### Quick Fixes:

- Delete `word_list.json` to start fresh
- Ensure CSV has proper headers
- Restart app if timer acts strange

## Future Ideas (Optional)

- Add pronunciation audio
- Multiple difficulty levels
- Progress charts
- Daily review reminders

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**Conclusion:** The app is simple: study words, test yourself, track progress. All data stays on your computer, no internet needed.

