

# 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

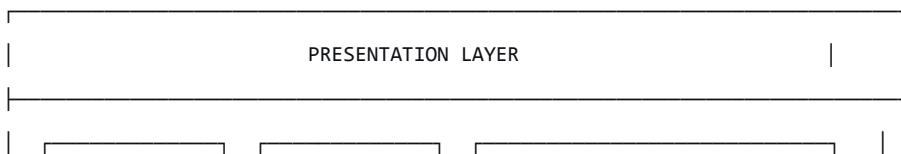
text

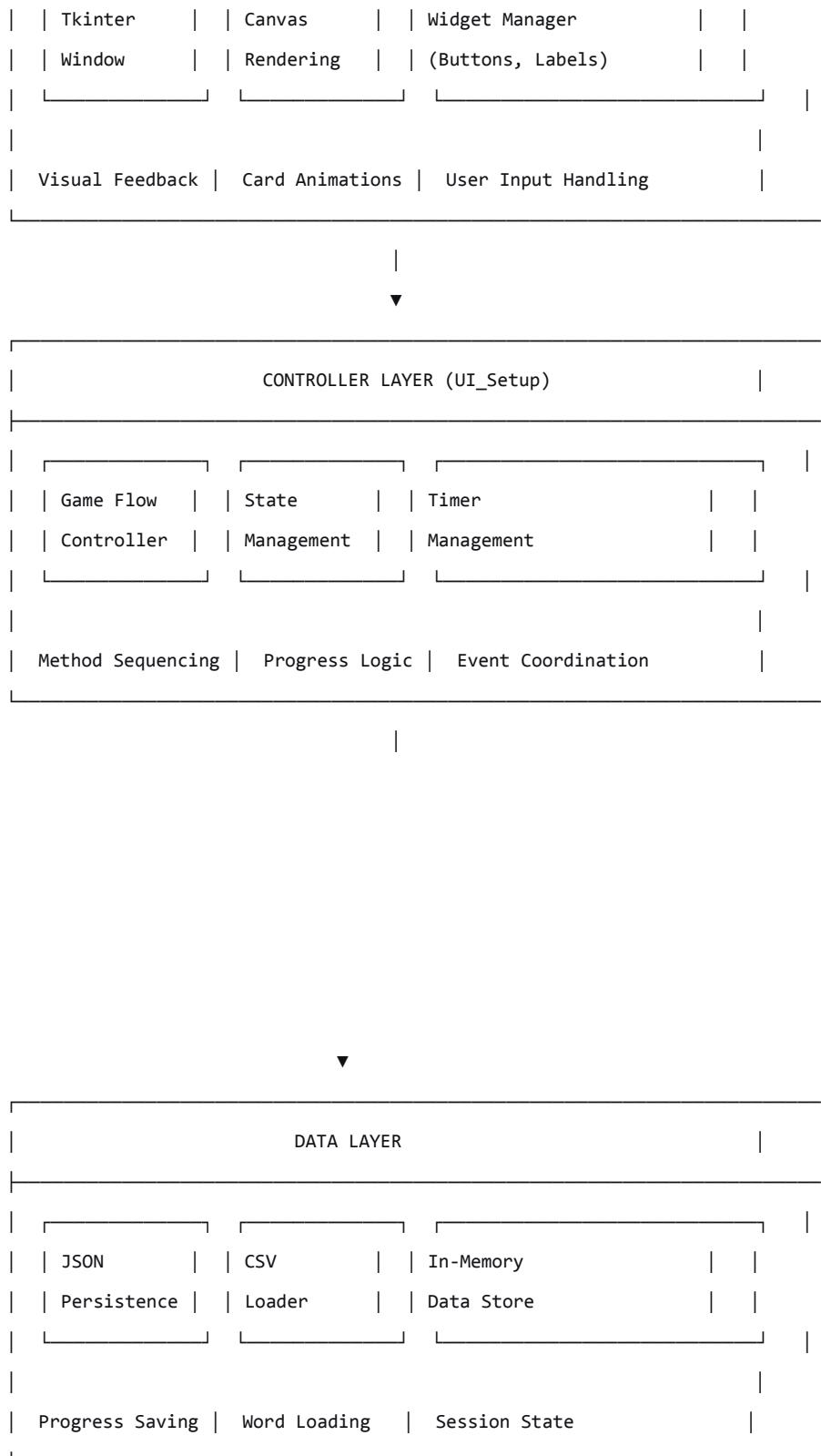
Start App → Load Words → Create UI → Show First Card

## System Architecture

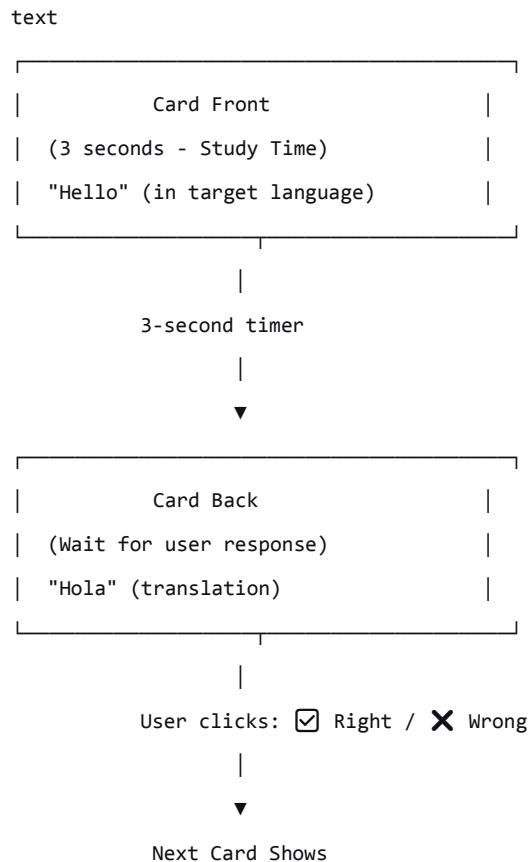
### Three-Layer Architecture

text





## 2. Card Display Flow



## 3. Progress Tracking

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

### JSON 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:**

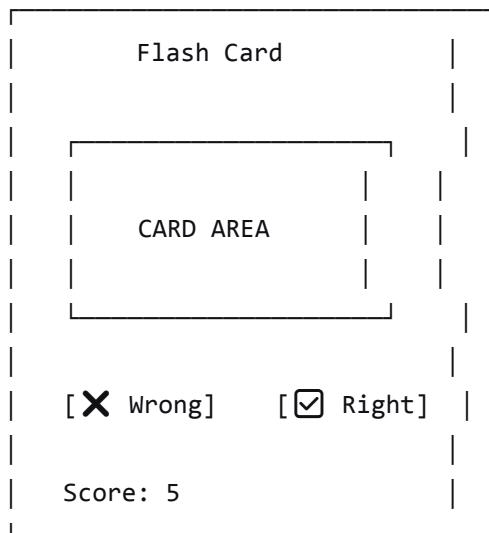
1. Create\_UI() - Builds the screen
2. NextWord() - Processes answers
3. FlipCard() - Handles card flipping
4. SaveProgress() - Saves to JSON
5. CheckReset() - Handles game end

## 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
- 

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

