### Project Handover Document: Cyberpunk Monk Chatbot

\*\*Document Title:\*\* Handover Document for Cyberpunk Monk Chatbot Project

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\*\*Project Owner:\*\* Andrew John Holland (@SilicaStormSiam)

\*\*Handover To:\*\* Incoming Development Team

\*\*Purpose of Document:\*\* This document provides a comprehensive overview of the Cyberpunk Monk Chatbot project, including its current state, technical details, known issues, and requirements for handover. It is intended to enable a smooth transition to the incoming development team, with particular attention to achieving stability for migration to Hostinger.com. All information is based on the project history, logs, and outputs as of August 8, 2025.

#### 1. Project Overview

The Cyberpunk Monk Chatbot is a Flask-based web application that integrates the Gemini API (from Google Generative AI, model `gemini-1.5-flash`) for generating responses in a Blade Runner-inspired persona called CP Monk. The chatbot is designed to answer queries about Andrew John Holland's professional skills, career, and projects, drawing from cached data from specified URLs. It features a neon cyberpunk aesthetic with user and bot message bubbles in green and pink, respectively.

- \*\*Project Directory\*\*: `M:\OneDrive\Documents\GitHub\CyberpunkMonkChatbot`

- \*\*Git Repository\*\*: https://github.com/silicastormsiam/CyberpunkMonkChatbot (branch: gemini-integration)

- \*\*Core Technologies\*\*: Python 3.10+, Flask 2.3.2, Gemini API 0.5.4, SQLite for data caching, APScheduler for monitoring, tqdm for progress bars.

- \*\*Environment\*\*: Conda environment `(cyberpunk\_monk)` (Python 3.10), with dependencies listed in `requirements.txt`.

- \*\*Ultimate Goal\*\*: Achieve stability (consistent interface loading, specific responses, low latency <3s, no 429 errors) for migration to Hostinger.com at https://www.andrewholland.com/chatbot/chat.html. As of this handover, stability has not been achieved; the chatbot has never reached a fully stable state.

#### 2. Current Status

- \*\*Functional Components\*\*:

- \*\*Environment and Dependencies\*\*: `(cyberpunk\_monk)` is active with all dependencies installed (e.g., `flask-cors==4.0.0`, `flask==2.3.2`, `google-generativeai==0.5.4`).

- \*\*monitoring.py\*\*: Successfully caches URLs into `data\_cache.db` (size: 3,948,544 bytes as of 2025-08-08), with visible progress bar.

- \*\*Flask Server Startup\*\*: `app.py` starts without import errors in `(cyberpunk\_monk)`, binding to port 5000.

- \*\*Static Assets\*\*: Background image (`cyberpunk-bg.jpg`) and other files are served (HTTP 304/200 in logs).

- \*\*Non-Functional Components\*\*:

- \*\*Chatbox Interface\*\*: Offline at `http://127.0.0.1:5000` or `http://192.168.1.225:5000`, with HTTP 404 errors for `/` (e.g., 2025-08-08 11:27:08), despite earlier successful loads (HTTP 200).

- \*\*Query Responses\*\*: Non-specific fallback messages (e.g., "Pumped to assist, but my cache lacks specifics..."), due to "no such table: data\_cache" errors (2025-08-07 20:55:56).

- \*\*Latency\*\*: Variable, ranging from 0.85s to 8.00s (e.g., 8.00s on 2025-08-08 03:24:22), leading to poor user experience.

- \*\*Gemini API\*\*: 429 quota errors (e.g., 2025-08-07 21:19:09), exceeding free-tier limits (15 requests/minute for `gemini-1.5-flash`), causing HTTP 500 errors.

- \*\*Overall Stability\*\*: Not achieved. The chatbot was briefly online in earlier tests (e.g., 2025-08-08 04:48:44, HTTP 200 for `chat.html`), but subsequent attempts failed due to 404 errors. Migration to Hostinger.com is not recommended until stability is restored.

#### 3. Technical Architecture

- \*\*Directory Structure\*\*:

- `scripts/`: Contains core Python files (`app.py`, `prompts.py`, `database.py`, `monitoring.py`, `test\_api.py`).

- `static/`: Web assets (`chat.html`, `styles.css`, `script.js`, `cyberpunk-bg.jpg`, `favicon.ico`).

- `logs/`: Execution and error logs (`execution.log`, `error.log`).

- Root: `data\_cache.db`, `requirements.txt`, `.env`, `.gitignore`, `CyberpunkMonkPersona.md`.

- \*\*Key Files\*\*:

- `app.py` (v1.9): Flask server, query handling, Gemini integration, retry logic for 429 errors.

- `prompts.py` (v2.9): Generates prompts for Gemini API with CP Monk persona.

- `monitoring.py` (v1.9): Caches URLs into `data\_cache.db` with progress bar.

- `database.py`: Initializes `data\_cache.db` table.

- `test\_api.py`: Tests Gemini API connection.

- `styles.css` (v1.7): Neon cyberpunk styling.

- `script.js`: Client-side chatbox logic.

- `chat.html`: Main interface template.

- `requirements.txt`: Dependencies list.

- `.env`: Stores `GEMINI\_API\_KEY`.

- \*\*Database\*\*: `data\_cache.db` (SQLite) with table `data\_cache` (columns: `url TEXT PRIMARY KEY, content TEXT`).

- \*\*Dependencies\*\* (from `requirements.txt`):

- apscheduler==3.10.4

- flask==2.3.2

- flask-cors==4.0.0

- google-generativeai==0.5.4

- requests==2.31.0

- tqdm==4.66.5

- \*\*Gemini API\*\*: Uses `gemini-1.5-flash` model with free-tier limitations (15 requests/minute). Key in `.env` as `GEMINI\_API\_KEY`.

- \*\*Routing\*\*:

- `/`: Serves `chat.html`.

- `/monk`: Handles POST queries with Gemini API.

- `/static/<filename>`: Serves static files.

#### 4. Known Issues (From Logs)

- \*\*HTTP 404 Errors\*\*: Logs show 404 for `chat.html` and `favicon.ico` (2025-08-08 11:27:08), despite earlier success (HTTP 200 on 2025-08-08 03:23:10). This indicates inconsistent static file serving, possibly due to routing or file permissions.

- \*\*Database Errors\*\*: "no such table: data\_cache" (2025-08-07 20:55:56), suggesting table creation failure or query mismatch, despite `database.py` initialization (2025-08-07 21:04:17).

- \*\*Gemini API Quota\*\*: 429 errors (2025-08-07 21:19:09) with retry delays (e.g., 50 seconds), leading to HTTP 500.

- \*\*Latency\*\*: High values (e.g., 8.00s on 2025-08-08 03:24:22), correlated with quota issues.

- \*\*monitoring.py Interruptions\*\*: Previous logs show multiple starts and shutdowns (e.g., 2025-08-08 03:13:33), but recent runs completed with caching success.

#### 5. Andrews Requirements (Nuances)

- \*\*Metadata and Version Control\*\*: All Python files (e.g., `app.py`, `prompts.py`, `monitoring.py`) must include detailed metadata headers with owner, purpose, version, last updated date, and change log. Increment versions with each change (e.g., v1.9 to v2.0). Styles.css must have version control and change log.

- \*\*Formal Tone\*\*: Responses and logs must use formal, professional language, avoiding colloquialisms.

- \*\*Aesthetic\*\*: Neon cyberpunk theme with green user bubbles (`#00FF00`), pink bot bubbles (`#F472B6`), Orbitron font for user/header, Verdana for bot.

- \*\*CP Monk Persona\*\*: Responses must incorporate the Blade Runner-inspired persona, SSS syndicate narrative, and redirects to Holland’s URLs.

- \*\*Stability Before Migration\*\*: The chatbot must be fully stable (no 404/500 errors, specific responses, latency <3s) before migrating to Hostinger.com. As per logs, this has not been achieved.

- \*\*Dependencies\*\*: Use `(cyberpunk\_monk)` environment exclusively; free-tier Gemini API is insufficient—upgrade to paid for production.

#### 6. Next Steps for Stability and Migration

- \*\*Short-Term Fixes\*\*:

- Activate `(cyberpunk\_monk)` and rerun `app.py` to confirm routing.

- Clear browser cache and test in incognito mode.

- Upgrade Gemini API plan to resolve 429 errors.

- Verify database table with `sqlite3 data\_cache.db "PRAGMA table\_info(data\_cache);"` (expected: url, content columns).

- \*\*Testing\*\*: Use `Invoke-WebRequest` for queries; check browser console for client-side errors.

- \*\*Migration to Hostinger\*\*: Delay until stability; then use WinSCP to upload files, SSH to run `app.py` in a venv.

- \*\*Timeline\*\*: Achieve stability by August 12, 2025; migrate by August 15, 2025; complete by August 17, 2025.

#### 7. Handover Notes

- \*\*Repository\*\*: Clone from https://github.com/silicastormsiam/CyberpunkMonkChatbot (branch: gemini-integration).

- \*\*Environment Setup\*\*: Create `(cyberpunk\_monk)` with `conda create -n cyberpunk\_monk python=3.10`, activate, and install from `requirements.txt`.

- \*\*API Key\*\*: Obtain Gemini API key from Andrew; store in `.env`.

- \*\*Contact\*\*: Andrew John Holland (@SilicaStormSiam) for "Andrews requirements" clarifications or API key.

- \*\*Documentation\*\*: `CyberpunkMonkPersona.md` for persona details.

This handover ensures the incoming team has all necessary data. If additional information is required, contact the project owner.