AVA

Software Documentation

V 1.1.0

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1. Introduction

1.1 About AVA

AVA is a comprehensive web-based platform designed to support women's health through intelligent tracking, early diagnosis, and personalized wellness resources. Originally developed to help women manage and monitor **Period Health, PCOS/PCOD**, AVA has evolved into a broader health companion by incorporating **thyroid disorder detection**, **various mental**

health screenings, with **nutrition**, **community support**, **blogs** and **tailored treatment recommendations**.

AVA harnesses the power of data science to analyze symptoms, patterns, and past health data to provide meaningful insights. The platform seamlessly integrates **frontend UX**, **backend processing**, and **Java-Script analysis** to deliver a smooth, user-friendly experience. It aims not just to inform but to **empower users to take charge of their health journey**.

1.2 Key Features

- **Symptom-based Diagnosis Engine**
  Predicts and suggests potential conditions (like PCOS, thyroid disorders, or mental health risks) using trained ML models.
- **Personalized Health Tracking**
  Users can log symptoms, and cycles for ongoing tracking and receive data-driven feedback.
- **Mental Health Screening**
  Evaluates mental wellness using established psychological indicators and flags areas of concern.
- **Smart Recommendations & Treatment Plans**
  Suggests articles, lifestyle changes, and treatment plans based on user diagnosis results.
- **User-Friendly Interface**
  Designed to be intuitive and accessible for users of all backgrounds.

2. Getting Started

2.1 System Requirements

To run AVA locally, ensure the following software is installed on your system:

- **Operating System**: Windows 10/11, macOS, or Linux
- **Web Server**: XAMPP, WAMP, or MAMP (for local development)
- **PHP**: Version 7.4 or higher (included in XAMPP/WAMP/MAMP)
- **Database**: MySQL (included in XAMPP/WAMP/MAMP)
- **Web Browser**: Chrome, Firefox, Edge, or Safari (latest versions)
- **Text Editor**: VS Code, Sublime Text, or Atom recommended

2.2 Installation Guide

1. *Install a local server environment*:
   - *Download XAMPP from https://www.apachefriends.org*
   - *Run the installer and select these components:*
     - *Apache*
     - *MySQL*

- *PHP*
- *phpMyAdmin (for database management)*

2. ***Install project dependencies*** *(if any):*
   - Clone the git repository :
     git clone https://github.com/Menodore/AVA.github.io
     cd ava_final
   - *Move the directory ava_final to C:\xampp\htdocs*
3. ***Install a text editor*** *(if you don't have one):*
   - *Download VS Code from https://code.visualstudio.com*

2.3 Setup Instructions

1. **Start your local server**:
   - Launch XAMPP Control Panel
   - Start Apache and MySQL services
2. **Set up your database**:
   - Access phpMyAdmin at http://localhost/phpmyadmin/
   - Create a new database "ava" for the project.
   - Create table "users" in the database "ava" with the following structure:
     - Id: INT(10) - Primary key that automatically increments (unique identifier for each user)
     - firstName: VARCHAR(50) - Stores the user's first name (max 50 characters)
     - lastName: VARCHAR(50) - Stores the user's last name (max 50 characters)
     - email: VARCHAR(50) - Stores the user's email address (max 50 characters)
     - password: VARCHAR(50) - Stores the encrypted/hashed user password (max 50 characters)
3. **Configure your project**:
   - Place your project files in the htdocs folder (XAMPP) or www folder (WAMP/MAMP).
   - Update database connection settings in your PHP files:

     ```
     $host="localhost";

     $user="root";

     $pass="";

     $db="ava";
     ```
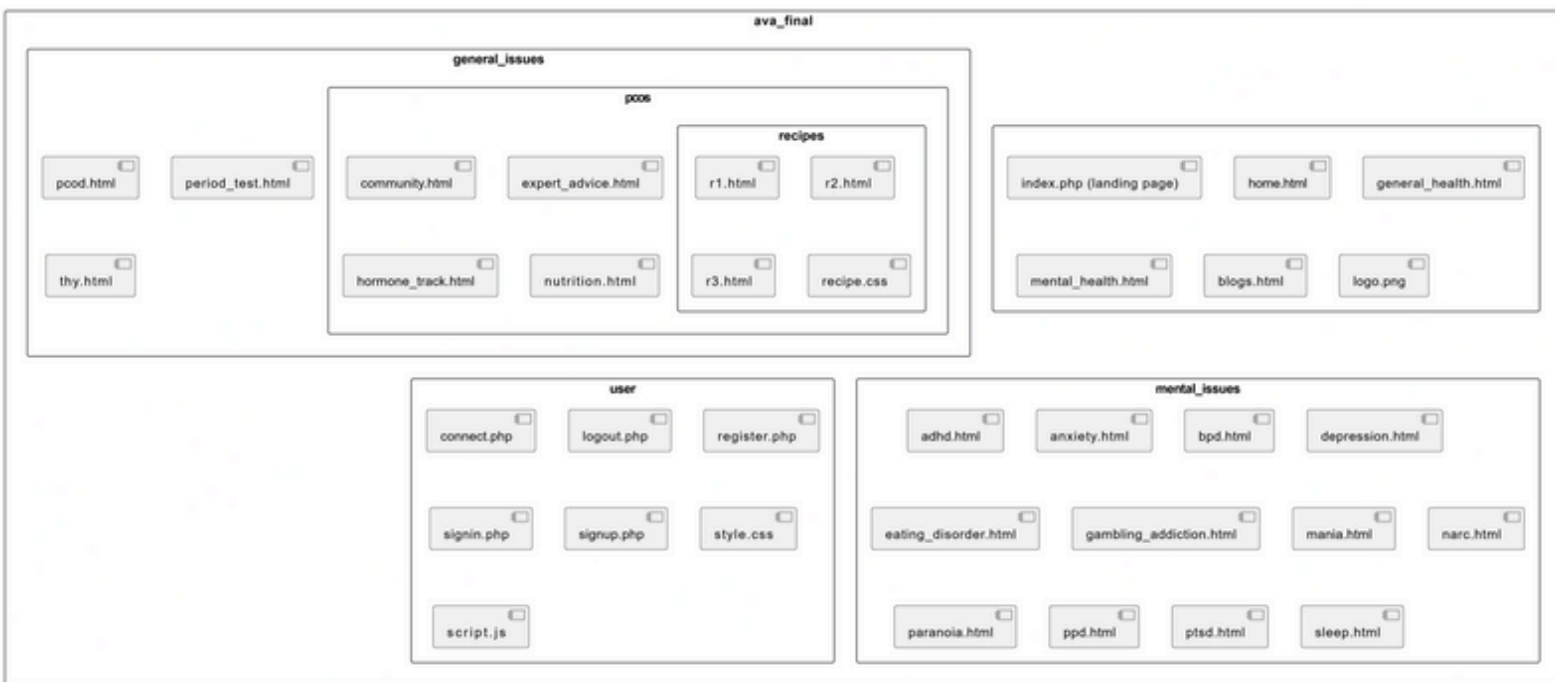

2.4 Quick Start

Access your project:

- Open your browser and navigate to: http://localhost/ava_final

3. Architecture Overview

3.1 System Design

Key Components:

1. **Frontend Layer**
   - Static HTML pages for content delivery
   - Responsive CSS styling with a consistent theme
   - Interactive elements (e.g., period-test.html for self-assessment)
   - User authentication (login/signup)
2. **Backend Layer (Potential)**
   - **Node.js** (indicated by ava-node directory) for server-side logic
   - **RESTful API** (if extended for dynamic content or user data)
3. **Content Management**
   - Dedicated pages for different health topics (mental_health.html, hormone.html, nutrition.html)
   - Structured asset management (public/mental_issues, logo.png)
4. **User Flow**
   - Landing page (index.html, land.html) → Topic selection → Interactive tools or articles
   - Secure access via login.html and signup.html

3.2 Technology Stack

Core Technologies

Category	Technology	Purpose
Frontend	HTML5, CSS3, JavaScript	Structure & styling
Icons & UI	Font Awesome (v6.4.0), Figma	Enhanced UX
Backend	Node.js, php	Server-side logic,
Version Control	Git, GitHub	Code management

Development Environment

- **GitHub Codespaces** (cloud-based IDE)
- **Localhost**

3.3 Modules and Components

The AVA platform is structured into distinct functional modules, each serving a specific purpose in delivering women's health resources. Below is a detailed breakdown of the components:

1. Core Website Modules

A. Landing

- **index.php** – Landing page

B. Primary Navigation

- **home.html** – Home page
- **general_health.html** – Catalogue of general health tests
- **mental_health.html** – Catalogue of general health tests
- **blogs.html** – Curated Blogs Page
- **Navigation Assets**:
  - **logo.png** – Brand identity

C. Authentication

- **connect.php** - Establish connection to database
- **register.php** - handles user registration and login by validating email formats, checking for duplicate emails, storing passwords, authenticating users, and managing sessions.
- **signin.php** – Login form with email/password fields, error display, and signup link that submits to register.php for authentication.

- **signup.php** – Registration form with validation, error handling, and success messages that submits user data to register.php for account creation.

2. Health Content Modules

A. General Health

- **Primary Hub**: general_health.html
  - Sub-Categories (in general_issues/)
    - **pcod.html** – Catalogue of Polycystic Ovary Disease resources
      - Sub-categories (in pcos/)
        - **hormone_track.html** - Hormonal Health Evaluation.
        - **expert_advice.html** - Health advice from expert written blogs and articles.
        - **community.html** - Supportive Community for a Sense of Belonging.
        - **nutrition.html** - Dietary guidelines and PCOS/PCOD-focused nutrition
          - Sub-Categories (in recipes/)
            - **r1.html**, **r2.html**, **r3.html** - Recipes
            - **recipe.css** - Styling for the recipe pages
    - **thy.html** – Thyroid hormonal health assessment
    - **period-test.html** – Interactive menstrual health self-assessment

B. Mental Health

- **Primary Hub**: mental_health.html
  - Sub-Categories (in mental_issues/)
    - **adhd.html** – Attention Deficit Hyperactivity Disorder
    - **anxiety.html**
    - **depression.html**
    - **bpd.html** – Borderline Personality Disorder
    - **ptsd.html** – Post-Traumatic Stress Disorder
    - **eating_disorder.html** – Anorexia, Binge Eating
    - **gambling_addiction.html** – Behavioral health
    - **mania.html** – Manic Episodes / Bipolar Disorder
    - **narc.html** – Narcissism
    - **paranoia.html** – Paranoid Personality Disorder
    - **ppd.html** – Postpartum Depression

Key Observations

1. **Modularity**: Content is logically split into /mental_issues and root-level pages.
2. **Scalability**: New health topics (e.g., thy.html) can be added without structural changes.
3. **User Flow**: Clear paths from landing (index.html) → authentication → topic-specific pages.

This architecture ensures organized content delivery, maintainability, and scalability for future health topics or features.

4. User Guide

4.1 UI Overview

The AVA platform features a clean, intuitive interface designed for seamless navigation:

Key UI Components

- **Landing Page** (index.php):
  - About AVA, Our Story of what inspired ava and Our Mission.
  - Contact information for user support.
  - Get Started Button for signup and Login for Signin.
- **Authentication Pages** (signin.html, signup.html):
  - Minimalist forms with validation feedback
- **Home Page** (home.html):
  - Hero section with call-to-action (e.g., "Explore Health Resources")
  - Topic cards (General Health, Mental Health, Blogs) linking to respective pages
  - Navigation bar with Home, General Health dropdown menu, Mental Health dropdown menu, Blogs, About dropdown menu, and Logout options.
- **Health Topic Pages** (mental_health.html, general_health.html):
  - Embedded self-assessment tools (e.g., period-test.html,pcos.html)
  - Structured content with subsections (e.g., "Symptoms," "Management Tips")
- **Footer**: Links to About Us, and contact information.

4.2 Core Functionalities

1. Content Access

- Use the **general health sub-categories** (/general_issues/) for pcod, thyroid and period health assessment resources.
- Use the **mental health sub-categories** (/mental_issues/) for condition-specific resources.

2. User Authentication

- **Sign Up**: Submit credentials via signup.php → redirect to dashboard (future).
- **Log In**: Access personalized features (e.g., saved articles) via signin.php

3. Blog & Community (blogs.html)

- Read and (future) contribute articles on health topics.

4.3 Example Workflows

Workflow 1: Exploring Mental Health Resources

1. **Landing Page** → Signin / Signup.
2. Home Page → Click "Mental Health" → Navigate to mental_health.html.
3. Select a sub-category (e.g., depression.html) for condition-specific advice.
4. Complete the depression.html form.
5. View results and suggested next steps.

Workflow 2: Using the Period Health Assessment

1. **Landing Page** →Signin / Signup.
2. Home Page → Click "General Health" → Navigate to general_health.html.
3. Click "Period Health Assessment" → Navigate to period_test.html.
4. Complete the period-test.html form.
5. View results and suggested next steps.

4.4 FAQs/ Troubleshooting

FAQs

Q1: Why can't I access certain pages?

A: Ensure you're logged in (if required). Pages like thy.html may need authentication.

Q2: Is my data secure?

A: Currently, no sensitive data is stored. Future versions will use encryption (e.g., HTTPS).

Troubleshooting

- **Page Not Loading?** Clear browser cache or check the URL (e.g., AVA.github.io/nutrition.html).
- **Styling Issues?** Disable browser extensions that may conflict with CSS (recipe.css).
- **Form Errors?** Ensure all fields (e.g., in signup.php) are filled correctly.

5 .Developer Guide

5.1 Project Structure

The AVA project follows a modular directory structure for scalability and maintainability:

Root Directory

AVA.github.io/

```
├── ava_final /

│  ├── general_issues/    # General health sub-pages
```

```
|  |    ├── pcos/              # PCOS sub-pages
|  |  |  ├──recipes/          # Recipes sub-pages

|  |  |  |  ├──r1.html

|  |  |  |  ├──r2.html

|  |  |  |  ├──r3.html

|  |  |  |  └────recipe.css

|  |  |  ├──── community.html
|  |  |  ├──── expert_advice.html
|  |  |  ├──── hormone_track.html
|  |  |  └──── nutrition.html
|  |  ├──── pcod.html
|  |  ├──── period_test.html
|  |  └──── thy.html

|  ├──── mental_issues/      # Mental health sub-pages

|  |  ├──── adhd.html
|  |  ├──── anxiety.html
|  |  ├──── bpd.html
|  |  ├──── depression.html
|  |  ├──── eating_disorder.html
|  |  ├──── gambling_addiction.html
|  |  ├──── mania.html
|  |  ├──── narc.html
|  |  ├──── paranoia.html
|  |  ├──── ppd.html
|  |  ├──── ptsd.html
|  |  └──── sleep.html

|  ├──── user/               # PHP scripts

|  |  ├──── connect.php       # Database connection
|  |  ├──── logout.php
|  |  ├──── register.php
|  |  ├──── signin.php        # Log-In handler
|  |  ├──── signup.php        # Sign-In handler
|  |  ├──── style.css
|  |  └──── script.js

|  ├──── index.php           # Landing page
|  ├──── home.html           #Home page
```

```
|   ├────── general_health.html
|   ├────── mental_health.html
|   ├────── blogs.html
|   └────── logo.png

└────── README.md          # Setup guide
```

5.2 Key Files

- **Static Pages**: HTML files for content (e.g., hormone.html, nutrition.html).
- **Styles**: CSS files (recipe.css, other css components included in html codes) use a consistent design system. ,
- **Assets**: Images (logo.png) and sub-directories (mental_issues/, general_issues/).

6. Future Enhancements and Scalability

6.1 Future Plans

- Integrate secure cloud-based storage for health logs and predictions.
- Expand machine learning coverage to include additional gynecological and more psychological conditions.
- Add multilingual support for broader accessibility.
- Enable personalized notifications and reminders via email or SMS.
- Develop a mobile version for Android and iOS platforms.
- Collaborate with certified health professionals for verified advice and teleconsultation support.

6.2 Scalability

- **Microservices Architecture**: Refactoring components into microservices would allow individual modules like ML prediction, article recommendation, and user analytics to scale independently.
- **Containerization & Orchestration**: Dockerizing the application and deploying via Kubernetes or similar platforms would enhance AVA's ability to scale and deploy in different environments.
- **Load Balancing**: Implementing load balancers will help distribute incoming traffic across multiple backend instances, improving availability.
- **Asynchronous Processing**: Moving to async task queues for tasks like ML predictions, email alerts, or daily tracking summaries would keep the platform responsive.
- **CDN for Static Content**: Delivering static assets (HTML, CSS, images) via a Content Delivery Network can drastically improve frontend load time for users globally.

7. Conclusion and Acknowledgements

7.1 Final Thoughts

AVA is more than just a health tracking platform — it is a compassionate step toward making healthcare more personalized, inclusive, and accessible for women everywhere. Born out of the realization that so many health issues, especially those unique to women, are often dismissed, misunderstood, or overlooked, AVA is our attempt to change that narrative using technology, empathy, and innovation.

From tracking hormonal imbalances in conditions like PCOS and PCOD, to addressing the silent struggles of mental health — anxiety, depression, ADHD, and more — AVA aims to be a trusted companion. One that listens. One that learns. One that supports.

By combining machine learning with intuitive design and curated content, AVA not only helps identify symptoms and patterns, but also provides articles, recipes, and treatment suggestions grounded in the user's journey. Every line of code, every interface, and every feature was built with the intent to empower users with clarity and control over their health.

7.2 Contributions

Varunika Naini (122CS0042): Frontend, Backend, Documentation

Chilukala Amrutha (122CS0065): Frontend, Backend, Databases

Ananya Srivastava (122CS0077): JavaScript, Idea, Documentation

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This project was built not just with code, but with compassion, care, and countless cups of chai.

End of Documentation