AstroMood Project Quality Assurance (QA) Plan

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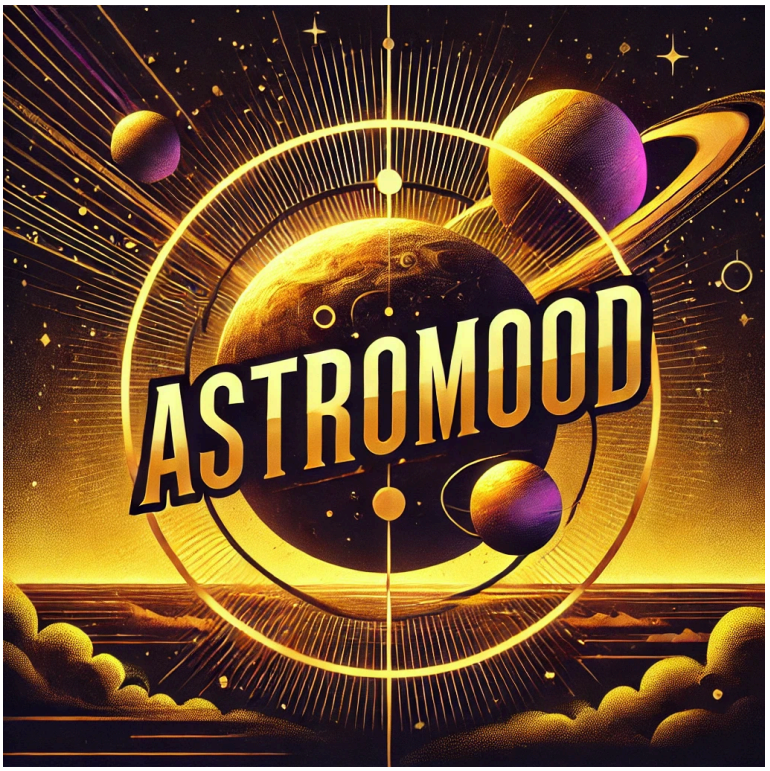

Document-Specific Task Matrix:

Task	**Team Member Responsible**
Quality Assurance Strategy	Zeynep Yetkin
Quality Factors and Metrics	Hazal Epözdemir
Test Plan	Esmanur Ulu, Sümeyye Sıla Altay

1. Quality Assurance Strategy

1.1. Overview

The Quality Assurance (QA) process will ensure that the software meets the required standards and expectations throughout all project phases. This includes:

- Clarifying and confirming requirements in the initial stages.
- Conducting regular testing and feedback loops during development.
- Running tests after each new feature addition or bug fix to verify software stability.

1.2. Testing Approaches

The following test methodologies will be applied:

1. **Integration Testing**
    - Ensures seamless interaction between different modules and services.
    - Example: Testing the integration between the zodiac sign calculation module and the user interface to confirm accurate data transfer.
2. **Unit Testing**
    - Developers will test individual modules or functions to validate expected outputs.
    - Example: Testing the method that calculates zodiac signs based on input date.
3. **Usability Testing**
    - Measures the user-friendliness of the application and ease of navigation.
    - Example: Ensuring users can easily navigate the interface and access desired information quickly.
4. **Regression Testing**
    - Confirms that existing functionalities remain unaffected by new features or fixes.
    - Example: Running previous tests after each update to verify system stability.
5. **System Testing**
    - Evaluates end-to-end system functionality according to project requirements.
    - Example: Ensuring users can seamlessly receive zodiac, mood analysis, and music recommendations.

1.3. Otomasyon ve Manuel Test

System Components to be Tested with Automated Tests:

- **Unit Tests:**

    - All modules and functions (e.g., the method that calculates the zodiac sign based on the entered date) will be verified using automated tests to ensure they produce the correct output.
- **Integration Tests:**
    - The compatibility of different modules and services (e.g., retrieving zodiac data, the mood module, and the AI-based recommendation engine) will be tested using automation frameworks.
- **Backend and API Operations:**
    - Fetching and processing online data, as well as backend system operations, will be regularly monitored through automated tests as part of the continuous integration (CI) process.

System Components to be Tested with Manual Tests:

- **Usability Tests:**
    - The application's user interface (UI) design, navigability, and accessibility will be manually evaluated using real user scenarios.
- **User Acceptance Tests (UAT):**
    - The system’s functionality and its ability to meet user expectations will be manually assessed based on real user experiences.
- **Spotify Integration:**
    - The correct functioning of Spotify integration, user authorization processes, and music recommendations will be verified through manual testing based on user interactions.
- **Special Scenarios and Complex Interactions:**
    - Scenarios where automation is insufficient or complex interactions unique to the user experience will be thoroughly tested through manual testing processes.

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2. Quality Factors and Metrics

The project team has identified four key quality factors, along with their corresponding measurement metrics:

Quality Factor	Description	Measurement Metric
Performans	System response time	<4 seconds
Reliability	System uptime	%99,9 uptime
Kullanılabilirlik	Ease of use for users	User satisfaction score (0–5)

Recommendation Quality	The relevance and approval rate of book, music, and movie recommendations	User rating percentage (%), acceptance/click rate of recommendations

These quality factors will be monitored throughout the development and testing processes, with a final evaluation conducted at the end of the project.

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3. Test Plan

3.1. Test Scenarios

Below are five sample test scenarios. In the actual project, the number of test scenarios can be increased and detailed further.

Test Name	Preconditions	Steps	Expected Outcome
Loading Daily Horoscope Predictions	-The website is running - Internet connection is active	1. Open the homepage 2. Navigate to the daily horoscope section	- All zodiac signs' daily predictions are displayed correctly - No error messages appear
Mood Input Form Validation	-The website is running	1. Open the mood input form 2. Submit the form without selecting a mood	- An error message appears when a required field is left empty
Music Recommendation via Spotify Integration	-The website is running - Spotify API credentials are correct	1. User selects their mood 2. Click the "Get Recommendations" button	- Mood-based playlists are displayed
AI-Based Book/Movie/TV Show Recommendations	-The website is running - User has entered their mood	1. The user’s zodiac sign is determined 2. They enter their mood 3. Click the "See Recommendations" button	- Book/movie/TV show recommendations based on zodiac sign and mood are listed

Motivational Quotes Screen	-The website is running - Internet connection is active - User has entered their mood	1. Tap “Quote”	- The page loads without issues - Quotes match the user's mood

3.2. Bug Tracking

- **GitHub Issues** will be used to track reported bugs.
- Each report will include the bug description, expected and actual results, and severity level (Critical, High, Medium, Low).
- Errors will be fixed in order of priority and retested.
- After each fix, regression tests will be run to check whether existing functions have been affected.