Feasibility Assessment - Bravo Team

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1. Overview of Planning Principles

Bravo Team's project plan follows a structured flow of **design (P1) → implementation (P2) → integration & testing (P3)**. The plan includes regular reviews and collaboration between teams, ensuring efficiency in development.

However, the timing of integration and load testing could be improved. **Earlier testing and a phased integration approach** would enhance the project's feasibility and reduce risks.

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2. Correctly Prioritized Goals

The following tasks are appropriately prioritized and contribute effectively to project feasibility:

- **Authentication & Network Infrastructure Design (P1)**
  - API and data management structures were defined early, ensuring consistency during implementation.
- **GUI & Backend Integration (P3)**
  - The plan to integrate GUI and backend in P3 ensures complete system verification.
- **Matchmaking & Leaderboard Design (P1–P2)**
  - Functionality is designed and finalized in P2, making P3 implementation and integration smooth.

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3. Incorrectly Prioritized Goals

The following tasks are either scheduled too late or could cause unnecessary delays if not addressed sooner:

- **Integration is heavily concentrated in P3**
  - Authentication, networking, and matchmaking integration starts in P3 (March 29 onward), leaving minimal time for fixes.
  - **Recommendation:** Conduct an **initial integration test in early P3 (March 22–24)** to detect issues earlier.
- **Load Testing & Error Handling are delayed**
  - Load testing is scheduled for late P3 (April 5–11), making last-minute fixes difficult.

    - **Recommendation:** Move partial load testing to **early P3 (March 25–28)** to allow for necessary adjustments.
- **Delayed API Integration Testing for Networking & Authentication**
    - Currently scheduled for P3, but should begin in **late P2 (March 22–24)** to ease integration efforts.

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4. Missing Goals

The absence of the following tasks could increase risks during the integration phase:

- **Basic Integration Testing Before Full Integration**
    - Since teams develop separately, a **preliminary API connectivity test** is needed before full integration.
    - **Recommendation:** Conduct a **basic integration test between authentication, networking, and GUI in early P3 (March 22–24).**
- **Load Testing & Performance Validation**
    - High-load scenarios are only tested in the final week, leaving no time for fixes.
    - **Recommendation:** Move a portion of **load testing to March 25–28** for early performance assessment.
- **Error Handling & Logging Validation**
    - There is no clear mention of network or authentication failure handling tests.
    - **Recommendation:** Make **error handling verification a mandatory task during integration testing in P3**.

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5. Conclusion & Recommendations

Overall, the plan is well-structured, with a phased approach to development. However, **starting integration earlier and addressing load testing sooner will improve feasibility**. Late-stage testing in P3 poses a risk, as **critical issues discovered at the last minute may not have enough time for resolution**.

Recommendations:

1. **Conduct early integration tests in P3 (March 22–24)**
    - Verify API connectivity between authentication, networking, and GUI.
    - This will smoothen integration and reduce workload in late P3.
2. **Move partial load testing to March 25–28**
    - Validate concurrent logins and matchmaking requests to ensure system stability.
    - Prevents last-minute failures that could delay final submission.
3. **Adjust integration priorities**

- Follow the sequence: **Authentication + Networking → Matchmaking + Leaderboard → GUI.**
- This staged approach reduces complexity and debugging efforts.

4. **Enhance Error Handling & Logging Tests in P3**
   - Include **network and authentication failure handling** as a key verification step in integration testing.