

# Performance Requirements Specification

## Mobile Gaming Application

### 1. Introduction

This document defines the performance requirements for the Mobile Gaming Application to ensure optimal user experience across various devices and network conditions.

### 2. Scope

- Platform: Android (8.0+), iOS (13+)
- Devices: Smartphones and tablets
- Network: Wi-Fi, 3G, 4G, and 5G connectivity

### 3. Performance Requirements

Requirement	Criteria	Target Value
App Launch Time	Cold start from tap to main menu	< 3 seconds
Frame Rate	During gameplay on supported devices	≥ 60 FPS
Input Response Time	Touch input to visual feedback	< 50 ms
Loading Screen Duration	From level selection to start	< 5 seconds
Network Latency Handling	During multiplayer matches (Ping)	< 100 ms
Memory Usage	Maximum memory footprint on device	< 250 MB
Battery Consumption	App running continuously for 1 hour	< 8% battery drain
Crash Rate	Per 10,000 sessions	< 0.5%

### 4. Stress and Load Requirements

- The app must maintain frame rate and response time when 90% of device RAM is in use.
- The app must sustain at least 1,000 concurrent online players per server instance without significant latency increase (< 20% degradation).

### 5. Compatibility

- App performance must remain consistent across at least 95% of target device models.
- All major screen sizes and aspect ratios must be supported without UI degradation.

### 6. Measurement and Monitoring

- Instrumentation will log key performance metrics for each user session.
- Performance test reports must be generated for major releases.

### 7. Revision History

Version	Date	Author	Remarks

0.1	2024-06-01	Dev Team	Initial Draft
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