

# MessageAl Rubric

Total Points: 100

# **Section 1: Core Messaging Infrastructure (35 points)**

## **Real-Time Message Delivery (12 points)**

## Excellent (11-12 points)

- Sub-200ms message delivery on good network
- Messages appear instantly for all online users
- Zero visible lag during rapid messaging (20+ messages)
- Typing indicators work smoothly
- Presence updates (online/offline) sync immediately

#### Good (9-10 points)

- Consistent delivery under 300ms
- Occasional minor delays with heavy load
- Typing indicators mostly responsive

#### Satisfactory (6-8 points)

- Messages deliver but noticeable delays (300-500ms)
- Some lag during rapid messaging
- Typing indicators work but laggy

#### Poor (0-5 points)

Inconsistent delivery

- Frequent delays over 500ms
- Broken under concurrent messaging

## Offline Support & Persistence (12 points)

#### **Excellent (11-12 points)**

- User goes offline → messages queue locally → send when reconnected
- App force-quit → reopen → full chat history preserved
- Messages sent while offline appear for other users once online
- Network drop (30s+) → auto-reconnects with complete sync
- Clear UI indicators for connection status and pending messages
- Sub-1 second sync time after reconnection

#### Good (9-10 points)

- Offline queuing works for most scenarios
- Reconnection works but may lose last 1-2 messages
- Connection status shown
- Minor sync delays (2-3 seconds)

#### Satisfactory (6-8 points)

- Basic offline support but loses some messages
- Reconnection requires manual refresh
- Inconsistent persistence
- Slow sync (5+ seconds)

#### Poor (0-5 points)

- Messages lost when offline
- Reconnection fails frequently
- App restart loses recent messages
- No connection indicators

#### **Testing Scenarios:**

- 1. Send 5 messages while offline  $\rightarrow$  go online  $\rightarrow$  all messages deliver
- 2. Force quit app mid-conversation  $\rightarrow$  reopen  $\rightarrow$  chat history intact
- 3. Network drop for 30 seconds → messages gueue and sync on reconnect
- 4. Receive messages while offline → see them immediately when online

## **Group Chat Functionality (11 points)**

#### **Excellent (10-11 points)**

- 3+ users can message simultaneously
- Clear message attribution (names/avatars)
- Read receipts show who's read each message
- Typing indicators work with multiple users
- Group member list with online status
- Smooth performance with active conversation

#### Good (8-9 points)

- Group chat works for 3-4 users
- Good message attribution
- Read receipts mostly work
- Minor issues under heavy use

### Satisfactory (5-7 points)

- Basic group chat functionality
- Attribution works but unclear
- Read receipts unreliable
- Performance degrades with 4+ users

#### Poor (0-4 points)

- Group chat broken or unusable
- Messages get mixed up
- Can't tell who sent what
- Crashes with multiple users

## **Section 2: Mobile App Quality (20 points)**

## **Mobile Lifecycle Handling (8 points)**

## Excellent (7-8 points)

- App backgrounding → WebSocket maintains or reconnects instantly
- Foregrounding → instant sync of missed messages
- Push notifications work when app is closed
- No messages lost during lifecycle transitions
- Battery efficient (no excessive background activity)

#### Good (5-6 points)

- Lifecycle mostly handled
- Reconnection takes 2-3 seconds
- Push notifications work

Minor sync delays

#### Satisfactory (3-4 points)

- Basic lifecycle support
- Slow reconnection (5+ seconds)
- Push notifications unreliable
- Some message loss

### Poor (0-2 points)

- Backgrounding breaks connection
- Manual restart required
- Push notifications don't work
- Frequent message loss

## Performance & UX (12 points)

#### Excellent (11-12 points)

- App launch to chat screen <2 seconds</li>
- Smooth 60 FPS scrolling through 1000+ messages
- Optimistic UI updates (messages appear instantly before server confirm)
- Images load progressively with placeholders
- Keyboard handling perfect (no UI jank)
- Professional layout and transitions

#### Good (9-10 points)

- Launch under 3 seconds
- Smooth scrolling through 500+ messages
- Optimistic updates work
- Good keyboard handling
- Minor layout issues

#### Satisfactory (6-8 points)

- Launch 3-5 seconds
- Scrolling smooth for 200+ messages
- Some optimistic updates
- Keyboard causes minor issues
- Basic layout

#### Poor (0-5 points)

Slow launch (5+ seconds)

- Laggy scrolling
- No optimistic updates
- Keyboard breaks UI
- Janky or missing components

## **Section 3: AI Features Implementation (30 points)**

## Required Al Features for Chosen Persona (15 points)

#### Excellent (14-15 points)

- All 5 required Al features implemented and working excellently
- Features genuinely useful for persona's pain points
- Natural language commands work 90%+ of the time
- Fast response times (<2s for simple commands)
- Clean UI integration (contextual menus, chat interface, or hybrid)
- Clear loading states and error handling

### Good (11-13 points)

- All 5 features implemented and working well
- 80%+ command accuracy
- Response times 2-3 seconds
- Good UI integration
- Basic error handling

#### Satisfactory (8-10 points)

- All 5 features present but quality varies
- 60-70% command accuracy
- Response times 3-5 seconds
- Basic UI integration
- Limited error handling

#### Poor (0-7 points)

- Missing required features
- Poor accuracy (<60%)</li>
- Slow responses (5+ seconds)
- Broken or confusing UI
- No error handling

#### **Feature Evaluation by Persona:**

Remote Team Professional:

- 1. Thread summarization captures key points
- 2. Action items correctly extracted
- 3. Smart search finds relevant messages
- 4. Priority detection flags urgent messages accurately
- 5. Decision tracking surfaces agreed-upon decisions

#### International Communicator:

- 1. Real-time translation accurate and natural
- 2. Language detection works automatically
- 3. Cultural context hints actually helpful
- 4. Formality adjustment produces appropriate tone
- 5. Slang/idiom explanations clear

#### Busy Parent/Caregiver:

- 1. Calendar extraction finds dates/times correctly
- 2. Decision summarization captures group consensus
- 3. Priority highlighting surfaces urgent info
- 4. RSVP tracking accurate
- 5. Deadline extraction finds commitments

#### Content Creator/Influencer:

- 1. Auto-categorization sorts correctly
- 2. Response drafting matches creator's voice
- 3. FAQ auto-responder handles common questions
- 4. Sentiment analysis flags concerning messages
- 5. Collaboration scoring identifies opportunities

## Persona Fit & Relevance (5 points)

#### Excellent (5 points)

- Al features clearly map to real pain points of the chosen persona.
- Each feature demonstrates daily usefulness and contextual value.
- The overall experience feels purpose-built for that user type.

#### Good (4 points)

 Most features solve relevant persona challenges; some may feel generic but alignment is clear.

#### Satisfactory (3 points)

• Features work technically but their practical benefit to the persona is unclear or inconsistent.

#### Poor (0–2 points)

 Al features are generic or misaligned with persona needs; little connection to stated pain points.

## Advanced AI Capability (10 points)

#### Excellent (9-10points)

- Advanced capability fully implemented and impressive
- **Multi-Step Agent**: Executes complex workflows autonomously, maintains context across 5+ steps, handles edge cases gracefully
- Proactive Assistant: Monitors conversations intelligently, triggers suggestions at right moments, learns from user feedback
- **Context-Aware Smart Replies**: Learns user style accurately, generates authentic-sounding replies, provides 3+ relevant options
- **Intelligent Processing**: Extracts structured data accurately, handles multilingual content, presents clear summaries
- Uses required agent framework correctly (if applicable)
- Response times meet targets (<15s for agents, <8s for others)
- Seamless integration with other features

#### Good (7-8 points)

- Advanced capability works well
- Handles most scenarios correctly
- Minor issues with edge cases
- Good framework usage
- Meets most performance targets

#### Satisfactory (5-6 points)

- Advanced capability functional but basic
- Limited scenarios covered
- Frequent edge case failures
- Framework used but not optimally
- Slow performance

#### Poor (0-4 points)

- Advanced capability broken or missing
- Doesn't work reliably
- Framework misused or not used

- Fails performance targets
- Poor integration

# **Section 4: Technical Implementation (10 points)**

## **Architecture (5 points)**

### Excellent (5 points)

- Clean, well-organized code
- API keys secured (never exposed in mobile app)
- Function calling/tool use implemented correctly
- RAG pipeline for conversation context
- Rate limiting implemented
- Response streaming for long operations (if applicable)

#### Good (4 points)

- Solid app structure
- Keys mostly secure
- Function calling works
- Basic RAG implementation
- Minor organizational issues

### Satisfactory (3 points)

- Functional app but messy
- Security gaps exist
- Function calling basic
- No RAG or very limited
- Needs improvement

#### Poor (0-2 points)

- Poor app organization
- Exposed API keys
- Function calling broken
- No RAG implementation
- Major security issues

## **Authentication & Data Management (5 points)**

### Excellent (5 points)

• Robust auth system (Firebase Auth, Auth0, or equivalent)

- Secure user management
- Proper session handling
- Local database (SQLite/Realm/SwiftData) implemented correctly
- Data sync logic handles conflicts
- User profiles with photos working

#### Good (4 points)

- Functional auth
- Good user management
- Basic sync logic
- Local storage works
- Minor issues

## Satisfactory (3 points)

- Basic auth works
- User management limited
- Sync has issues
- Local storage basic
- Needs improvement

#### Poor (0-2 points)

- Broken authentication
- Poor user management
- Sync doesn't work
- No local storage
- Major vulnerabilities

## Section 5: Documentation & Deployment (5 points)

## Repository & Setup (3 points)

## **Excellent (3 points)**

- Clear, comprehensive README
- Step-by-step setup instructions
- Architecture overview with diagrams
- Environment variables template
- Easy to run locally
- Code is well-commented

#### Good (2 points)

- Good README
- Setup mostly clear
- Architecture explained
- Can run with minor issues

### Satisfactory (1 point)

- Basic README
- Setup unclear in places
- Minimal architecture docs
- Difficult to run

#### Poor (0 points)

- Missing or inadequate documentation
- Cannot be set up
- No architecture explanation

## **Deployment (2 points)**

### **Excellent (2 points)**

- App deployed to TestFlight/APK/Expo Go
- Or, app runs on emulator locally
- Works on real devices
- Fast and reliable

#### Good (1 point)

- Deployed but minor issues
- Accessible with some effort
- Works on most devices

#### Poor (0 points)

- Not deployed
- Deployment broken
- Cannot access or test

# Section 6: Required Deliverables (Pass/Fail)

## Demo Video (Required - Pass/Fail)

**PASS Requirements**: 5-7 minute video demonstrating:

- Real-time messaging between two physical devices (show both screens)
- Group chat with 3+ participants
- Offline scenario (go offline, receive messages, come online)
- App lifecycle (background, foreground, force quit)
- All 5 required Al features with clear examples
- Advanced AI capability with specific use cases
- Brief technical architecture explanation
- Clear audio and video quality

**FAIL Penalty**: Missing requirements OR poor quality OR not submitted = -15 points

## Persona Brainlift (Required - Pass/Fail)

PASS Requirements: 1-page document including:

- Chosen persona and justification
- Specific pain points being addressed
- How each AI feature solves a real problem
- Key technical decisions made

**FAIL Penalty**: Missing or inadequate = -10 points

## Social Post (Required - Pass/Fail)

PASS Requirements: Post on X or LinkedIn with:

- Brief description (2-3 sentences)
- Key features and persona
- Demo video or screenshots
- Link to GitHub
- Tag @GauntletAl

FAIL Penalty: Not posted = -5 points

## **Bonus Points (Maximum +10)**

#### Innovation (+3 points)

- Novel AI features beyond requirements
- Examples: Voice message transcription with AI, smart message clustering, conversation insights dashboard, AI-powered search with semantic understanding

#### Polish (+3 points)

Exceptional UX/UI design

- Smooth animations throughout
- Professional design system
- Delightful micro-interactions
- Dark mode support
- Accessibility features

### **Technical Excellence (+2 points)**

- Advanced offline-first architecture (CRDTs, OT)
- Exceptional performance (handles 5000+ messages smoothly)
- Sophisticated error recovery
- Comprehensive test coverage

#### **Advanced Features (+2 points)**

- Voice messages
- Message reactions
- Rich media previews (link unfurling)
- Advanced search with filters
- Message threading

## **Grade Scale**

**A (90-100 points)**: Exceptional implementation, exceeds targets, production-ready quality, persona needs clearly addressed

**B** (80-89 points): Strong implementation, meets all core requirements, good quality, useful Al features

**C (70-79 points)**: Functional implementation, meets most requirements, acceptable quality, basic AI features work

**D** (60-69 points): Basic implementation, significant gaps, needs improvement, Al features limited

F (<60 points): Does not meet minimum requirements, major issues, broken functionality