

Product Requirements Document Template

 **Template Instructions:** This template follows the industry's best practices from major tech companies. Replace bracketed placeholders with your specific content. Each section includes guidance on what to include.

Document Information

Field	Value
Product Name	Reel Rocket
Document Owner	Deepika Seshaiah
Stakeholders	Design Lead, Engineering Lead, Data Analyst
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Executive Summary

Problem: Small business owners lack time, tools, and skills to create engaging Instagram Reels consistently.

Solution: Reel Rocket automates script generation, video editing, and voiceover syncing to create ready-to-post Reels

Impact: Improved engagement, organic reach, and brand visibility for small businesses.

Investment: Medium engineering effort (4–6 weeks); uses GPT and FFmpeg; mobile-friendly frontend.

Problem Statement

Current State Analysis

Only ~12% of small businesses post Reels regularly despite knowing its marketing potential.

Key Pain Points:

- Lack of time or creative expertise
- Difficulty identifying or applying trends
- Dependence on freelancers or family

Root Cause Analysis

There's no intuitive, AI-powered platform built specifically for small business users.

Cost of Inaction

Loss of potential customers, poor engagement, and weaker brand perception.

🎯 Goals and Success Metrics

Primary Objective

Enable small business users to create & publish Reels in under 5 minutes.

Success Metrics

⌚ Level 0 Metrics (Primary KPIs)

- [Weekly Active Users]: [0] → [10000] ([Q3])
- [Reels Created per User]: [0] → [3/week]

⌚ Level 1 Metrics (Secondary KPIs)

- [Script Acceptance Rate]: [0%] → [70%] ([Q3])
- [Average Reel Creation Time:]: [>10min] → [<5min] ([Q3])

⌚ Level 2 Metrics (Engagement/Quality)

- [Reel Completion Rate]: [~30%] → [60%] ([Q3])
- [Reel Engagement Rate]: [Baseline] → +30% over baseline] ([Q3])

🛡 Guardrail Metrics

1. Churn rate: < 10%
2. Support ticket rate: < 1%

👥 Target Audience

Primary Users

[Small business owners in India]

- **Size:** [~20 million Instagram-active users]
- **Characteristics:** [Low-tech, time-constrained, creative intent]
- **Current Behavior:** [Irregular or no Reels]
- **Motivation:** [Reach more customers via content]

Secondary Users

[Social Media Consultants / Digital Marketing Assistants]

- **Size:** [Estimated 5–10% of the small business ecosystem (especially those supporting multiple SMBs)]
- **Characteristics:** [Tech-savvy, content-focused, manage multiple client accounts, familiar with Instagram trends]
- **Relationship to Primary:** [They assist or manage Reels creation for small business owners who delegate digital content work. Their feedback and adoption influence tool stickiness and feature improvement.]

User Personas

[Priya Sharma (29)]: [Boutique owner in Jaipur, wants to grow reach without tech complexity.]

[Salim Khan (42)]: [Bakery owner in Hyderabad, needs simple tools to showcase seasonal items.]

💡 Solution Overview

High-Level Approach

[AI co-pilot automates script generation, syncing of media and voiceover, and Reel creation in under 30 seconds.]

Key Principles

1. Simplicity
2. Local language support
3. Mobile-first speed

Solution Components

- Upload 5–10 images or videos
- Add or record voiceover
- AI auto-sync + transitions
- Preview
- Download or Auto-post

🔧 Detailed Requirements

Feature 1: [Upload Media]

Objective: [Let users upload 5–10 photos/videos]

User Story: "As a business owner, I want to upload product photos so that I can create a Reel."

Functional Requirements:

- [Accepts images/videos]
 - [Displays grid]
 - **Acceptance Criteria:**
 - Given a valid file, when uploaded, then it should show in a grid
 - **Priority:** [High] **Effort Estimate:** [3 Story Points]
-

Feature 2: Voiceover Input]

Objective: [Add personalized narration]

User Story: "As a user, I want to add my voice so I can personalize my Reel."

Functional Requirements:

- Record voice
- Upload file
- Preview and re-record

Acceptance Criteria:

When audio is added, preview should play correctly

Priority: [High] **Effort Estimate:** [5 Story Points]

User Experience

User Journey Map

[The user uploads media, adds a voiceover, and uses AI to generate a Reel, preview it, and then either posts it to Instagram or downloads it — all within a simple, guided flow.]

Step 1: Upload Media

- User Action: Selects 5–10 images or short videos
- System Response: Displays media in a grid layout
- User Emotion: Hopeful

Step 2: Add Voiceover

- User Action: Records or uploads a short voice narration
- System Response: Shows audio waveform with playback and re-record options
- User Emotion: Excited

Step 3: Create Reel

- User Action: Clicks the “Create” button
- System Response: Displays loading spinner and syncs visuals with audio using AI
- User Emotion: Curious

Step 4: Preview Reel

- User Action: Watches auto-generated preview
- System Response: Plays final Reel with transitions and voice synced
- User Emotion: Impressed

Step 5: Publish or Download

- User Action: Clicks “Post to Instagram” or “Download”
- System Response: Confirms post/download success
- User Emotion: Proud

Key Interaction Points

- **Uploading Media:** Ensures users can easily select and visualize their photos/videos; a smooth upload experience builds confidence early.
- **Voice Recording and Playback:** Determines personalization quality; if users struggle here, they may drop off.
- **Reel Preview:** This is the final moment of judgment — a successful preview drives publishing or sharing behavior.

Design Principles

- One task per screen to avoid overwhelm
- Large icons and buttons for ease of use on mobile
- Simple and clear call-to-actions (CTAs)
- Minimalist layout to reduce cognitive load
- Visual feedback at every step (e.g., loading, success)
- Local language support for better accessibility

Technical Requirements

Architecture Overview:

React Native frontend + Node.js backend + Firebase + FFmpeg for video processing.

Frontend Requirements:

- Mobile-first responsive UI
- Compress media before upload to optimize bandwidth
- Support voice recording, preview, and re-record
- Reel preview player with play/pause functionality

Performance Requirements (Frontend):

- Upload and voice recording actions complete in <5 seconds
- Preview reel plays with <2 second load time

Browser/Device Compatibility:

- Android 8+ and iOS 13+ (React Native)
- Compatible with Chrome, Safari, Firefox (desktop fallback)

Backend Requirements:

- API endpoints for media upload, voice handling, and reel generation
- Audio/video syncing logic with duration matching
- Final video output generation using FFmpeg

Database Requirements:

- Firebase Firestore for session tracking, user metadata
- Firebase Storage or AWS S3 for storing media assets

Integration Requirements:

- Firebase Auth for OTP login and identity
- Instagram Graph API for post automation
- GPT for script generation

Third-Party Dependencies:

- OpenAI GPT (script generation)
- FFmpeg (video merging/rendering)
- Firebase (authentication, database, storage)
- Instagram Graph API (Reel posting)
- Mixpanel or Google Analytics (event tracking)

Performance Requirements:

- Upload & processing time: <5 seconds per step
- Reel generation time: <30 seconds
- System uptime: ≥99%

Security Requirements:

- OTP-based login using Firebase
- Tokenized URLs for secure media storage access
- End-to-end encryption for media transfer
- User consent for storing voice/image data during onboarding
- GDPR-compliant data handling and deletion options

Implementation Plan

Phase 1: MVP (Minimum Viable Product)

Timeline: [July 15 2025] - [August 15 2025]

Scope: [Upload media, record voice, auto-generate Reel, preview]

Success Criteria: [500+ test reels generated]

Phase 2: [Enhancement Phase]

Timeline: [August 20 2025] - [September 30 2025]

Scope: [Scheduling, analytics dashboard]

Success Criteria:

1. At least 50% of active users utilize the scheduling feature
2. Engagement dashboard accessed by 30%+ of users weekly
3. Reel engagement improves by 15% with scheduled posts

Phase 3: [Future Iterations]

Timeline: [October 5, 2025] - [December 15, 2025]

Scope:

1. Advanced AI personalization (e.g., tone/style presets for voiceovers)
2. Multi-language support for regional business users
3. Scale infrastructure for 100K+ users
4. Add collaborative features (e.g., team access, review workflows)

Key Milestones

Milestone Name	Date	Deliverable
Design Completion	10-Jul-25	Final UI/UX wireframes approved
MVP Development Start	15-Jul-25	Begin development of core features
MVP Code Freeze	25-Jul-25	Core functionalities implemented
MVP Launch	15-Aug-25	Upload, voice, preview live for users
Enhancement Phase Start	20-Aug-25	Begin development of scheduling and analytics
Enhancement Complete	30-Sep-25	Phase 2 live with scheduling and insights dashboard
Future Iterations Start	5-Oct-25	Begin work on AI personalization & scaling
Phase 3 Complete	15-Dec-25	Platform ready for 100K+ users

⚠ Risks and Mitigation

High-Risk Items

Risk: [Users find voiceover feature confusing]

- **Impact:** [Medium]
- **Probability:** [High]
- **Mitigation:** [How to reduce or eliminate this risk]
 1. Provide an onboarding tutorial with visual cues
 2. Add tooltips or help icons
 3. Include sample voiceovers for guidance
 4. Conduct early user testing and iterate based on feedback

Technical Risks

[Specific technical challenges and mitigation strategies]

1. **Risk:** Voiceover synchronization issues across different devices

Impact: High

Probability: Medium

Mitigation Strategy:

- Test across multiple devices and browsers
- Use adaptive sync algorithms
- Enable a preview option for users to verify synchronization

2. Risk: AI-generated audio sounds unnatural or robotic

Impact: Medium

Probability: High

Mitigation Strategy:

- Use advanced Text-to-Speech (TTS) engines
- Allow users to upload custom voiceovers for a more personalized experience

3. Risk: Scalability issues when many users generate reels at once

Impact: High

Probability: Medium

Mitigation Strategy:

- Use cloud-based auto-scaling to manage load
- Optimize media processing pipeline for performance and efficiency

Business Risks

[Market, competitive, or strategic risks and mitigation strategies]

1. Risk: Competing apps offer similar features at a lower cost

Impact: High

Probability: Medium

Mitigation Strategy:

- Differentiate with superior UX, customer support, and brand trust

2. Risk: Low adoption due to user hesitation with AI technologies

Impact: Medium

Probability: Medium

Mitigation Strategy:

- Educate users through webinars, demos, and transparent communication

3. Risk: Difficulty in monetizing freemium model

Impact: High

Probability: Medium

Mitigation Strategy:

- Carefully design premium tiers
- Provide strong value in paid features

4. Risk: Rapid changes in market trends reduce relevance of core features

Impact: High

Probability: Medium

Mitigation Strategy:

- Monitor industry trends and user behavior
- Use agile development for quicker feature adaptation

5. Risk: Larger competitors quickly replicate unique features

Impact: High

Probability: High

Mitigation Strategy:

- Focus on rapid innovation and strong community engagement
- Protect intellectual property

6. Risk: Inability to scale marketing efforts effectively

Impact: Medium

Probability: Medium

Mitigation Strategy:

- Partner with creators and influencers
- Optimize both organic and paid marketing strategies

7. Risk: Misalignment between product vision and actual user needs

Impact: High

Probability: Medium

Mitigation Strategy:

- Conduct frequent user research and feedback loops
- Adjust product roadmap based on real usage and input

Operational Risks

[Implementation, support, or maintenance risks and mitigation strategies]

1. Risk: Delay in deployment due to third-party API dependencies

Impact: High

Probability: Medium

Mitigation Strategy:

- Use fallback services
- Keep critical features self-contained to reduce external dependency risk

2. Risk: Increased support tickets due to unclear feature usage

Impact: Medium

Probability: High

Mitigation Strategy:

- Enhance in-app guidance with tooltips and walkthroughs
- Add comprehensive FAQ section and live chat support

3. Risk: Maintenance overhead with frequent feature updates

Impact: Medium

Probability: Medium

Mitigation Strategy:

- Adopt a modular architecture to isolate and manage changes efficiently
 - Automate testing and deployment processes to reduce manual errors and delays
-

Dependencies

Internal Dependencies

- **Design Team:** Finalized screen designs by July 10
- **Backend Team:** API integration and media handling logic **by July 25**

External Dependencies

- **OpenAI GPT API:** Access for voice scripting and AI content generation as soon as possible
- **FFmpeg Setup:** Environment configuration for media processing before development starts

Blocking Dependencies

Frontend/UI Team: UI build for upload and voiceover steps must be completed before integration can begin

Analytics and Measurement

Measurement Framework

We will track user engagement across the entire Reel creation funnel, from content upload to final publishing. This helps identify drop-off points, optimize UX, and inform future iterations.

Key Events to Track

- **Upload Initiated:**
Occurs when the user begins uploading media.
Measures entry into the creation flow and intent to create content.
- **Voice Recorded/Uploaded:**
Occurs when the user either records or uploads a voiceover.
Measures user interaction with the voiceover feature and preference for input method.
- **Reel Generated:**
Occurs once AI or manual inputs are processed into a complete reel.
Measures completion of the core creation process.
- **Reel Published:**
Occurs when the reel is shared or saved for public view.
Measures final conversion and user satisfaction with output.

Dashboards and Reporting

- **Tools:** Mix panel and Firebase Analytics
- **Purpose:** Monitor real-time funnel progression, feature usage, and event conversion rates
- **Ownership:** Product and Data teams will review weekly flag issues and identify optimization opportunities

A/B Testing Strategy

- **Test Case 1:** *AI-generated script vs. Custom voiceover*
Goal: Understand user preference and completion rates
- **Test Case 2:** *Scheduled publishing vs. Instant publishing*
Goal: Analyze post engagement based on release timing

Go-to-Market Strategy

Launch Strategy

We will initiate a soft launch targeting trusted user segments to validate the experience and gather feedback.

- Roll out to WhatsApp business communities and Instagram micro-influencers
- Collect real usage data and testimonials before broader launch

Communication Plan

Internal:

- Slack updates to keep cross-functional teams aligned
- Internal demo sessions to showcase the user flow and key features

External:

- Email drip campaigns to beta users and subscribers
- Short tutorial video shared via email, social platforms, and in-app

Training Requirements

Create a 2-minute onboarding video for new users

Publish Help Center articles covering:

- How to create a reel
- How to record/upload voiceovers
- Publishing and sharing tips

Launch Criteria

- MVP functionality is stable and tested end-to-end
- Minimum of 2 test reels published by the beta user group
- All core analytics and error tracking are in place

Success Criteria

Definition of Success

- 1,000+ Reels created in first 30 days
- >80% completion of Reel creation flow
- <2% bug/issue rate from users

Launch Readiness Checklist

Checklist Item	Status
✓ Acceptance criteria met	<input checked="" type="checkbox"/> Completed
✓ Performance benchmarks achieved	<input type="checkbox"/> Pending

✓ Security review completed	<input type="checkbox"/> Pending
✓ Analytics tracking implemented	<input checked="" type="checkbox"/> Completed
✓ Documentation completed (Help docs)	<input checked="" type="checkbox"/> Completed
✓ Training delivered	<input type="checkbox"/> Pending
✓ Rollback plan prepared	<input checked="" type="checkbox"/> Completed

Post-Launch Review

When:

Conduct the review 2 weeks after launch to allow sufficient user engagement and data collection.

How:

We'll evaluate success using a combination of quantitative metrics, qualitative feedback, and team retrospectives.

Evaluation Criteria:

1. Usage Metrics:

- Number of reels created and published
- Voiceover feature adoption rate
- Funnel drop-off points across key events

2. Performance Indicators:

- App stability and load times during reel generation
- API error rates or failure logs

3. User Feedback:

- Beta group and early adopter surveys
- Support tickets or common help requests

4. Business Impact:

- Engagement uplift (return users, session duration)
- Social sharing activity or mentions

5. Internal Review:

- Team retrospective to identify what worked and what didn't
- Discuss improvement areas for future iterations

Appendices

Appendix A: Competitive Analysis

- Canva and InShot are powerful but complex for non-designers
- Lack guided AI flow or lightweight automation
- Opportunity: Simplified experience tailored to solo creators and small businesses

Appendix B: User Research

- 12 interviews with small business owners
- Key feedback: “Less buttons, more results”
- Preference for quick, automated tools over manual editing workflows

Appendix C: Technical Deep Dive

- FFmpeg configured for efficient voice-video rendering
- GPT prompt templates pre-defined for 5-reel types
- Asynchronous backend with polling-based status update

Appendix D: Legal & Compliance

- Explicit user consent for voice/image use
- Data retention and deletion policy aligned with GDPR/CCPA
- Privacy terms presented during account creation

Appendix E: UI Wireframes (Balsamiq)

This appendix showcases key wireframes that illustrate the core user journey within the AI Reel Creator app. These screens are designed to simplify content creation for non-technical users while ensuring flexibility and clarity.

1. Add Your Voiceover Screen

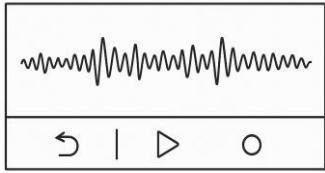
This screen allows users to add voiceovers through two options: recording live or uploading an existing audio file.

Key Components:

- **Record Voice** and **Upload Audio File** buttons
- **Waveform preview** with playback/recording controls
- **Instructional tip:** “Keep it under 30 seconds”
- **Primary CTA:** "Use This Voice"

Visual:

Add Your Voiceover



Tip: Keep it under 30 seconds

Use This Voice →

2. End-to-End User Flow

This flow diagram represents the complete sequence from photo upload to automatic reel posting.

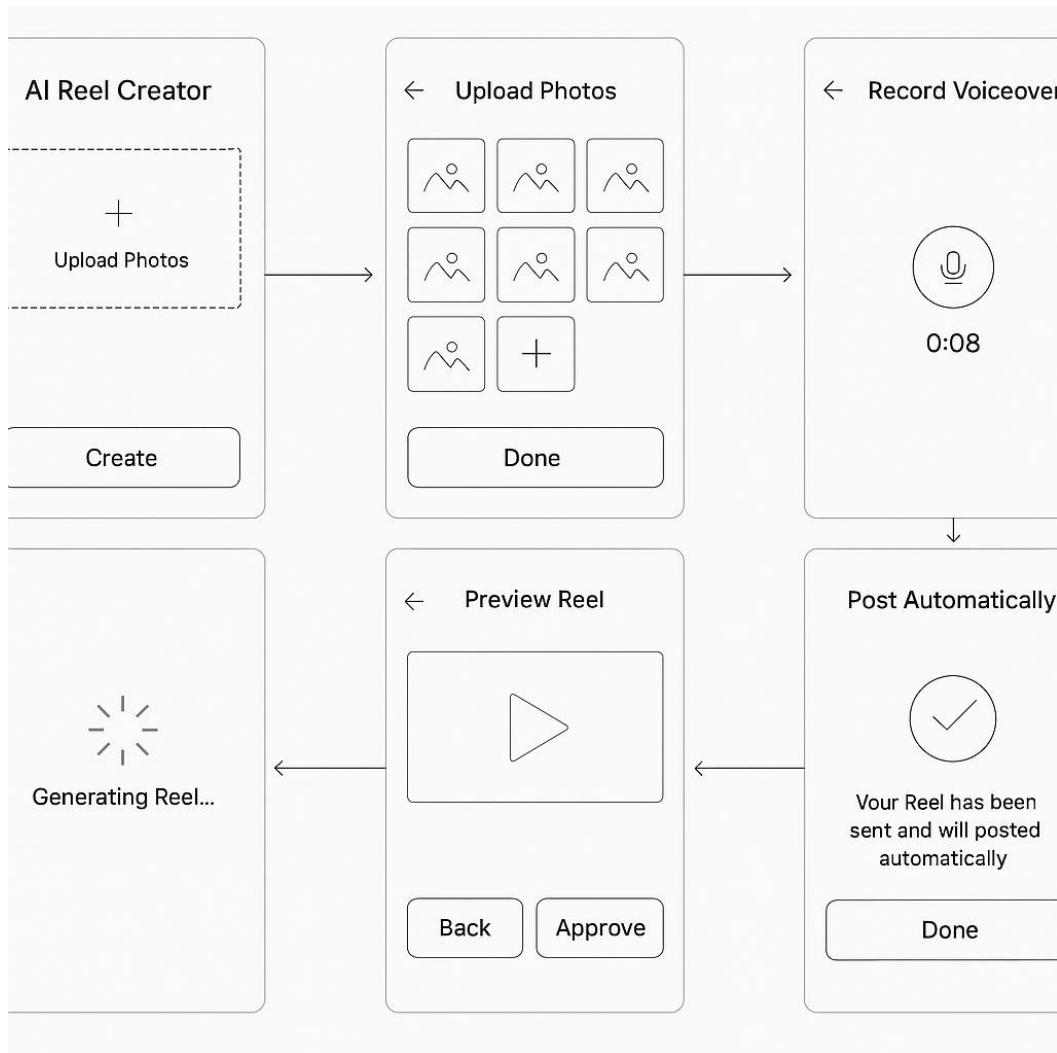
Screens in Flow:

1. **AI Reel Creator** → Upload photos and begin creation
2. **Upload Photos** → Select multiple images
3. **Record Voiceover** → Simple timed recorder
4. **Generating Reel** → System processing
5. **Preview Reel** → Option to go back or approve
6. **Post Automatically** → Final confirmation screen

Purpose:

Provides a visual map of user interactions and system responses across the entire reel generation journey.

Visual(Balsamiq)



✓ Approval

Role	Name	Signature	Date
Product Manager	Deepika Seshaiyah		July 6 2025
Engineering Lead	[To be Assigned]		
Design Lead	[To be Assigned]		
Data science lead	[To be Assigned]		
Business Stakeholder	[To be Assigned]		

Change Log

Version	Date	Changes	Author
1	July 6 2025	Initial Draft	Deepika