

Social Echelon - Feature Status Document

Last Updated: August 2025

🏗 SYSTEM ARCHITECTURE OVERVIEW

Social Echelon is built on 5 core engines:

1. **Content Intelligence Engine** - AI-powered personalized content generation
2. **Trend Monitoring Engine** - Real-time trend collection and analysis
3. **User Management Engine** - Authentication, profiles, and preferences
4. **Brand Partnership Engine** - AI matching for influencer-brand partnerships
5. **Algorithm Detection Engine** - Crowdsourced Instagram algorithm change detection

🧠 CONTENT INTELLIGENCE ENGINE

✅ FULLY FUNCTIONING

Feature	Status	Description
AI Content Generation	✓ LIVE	OpenAI GPT-4 generates personalized weekly content plans
User Preference System	✓ LIVE	Saves niche, goals, style, audience preferences permanently
Weekly Content Planning	✓ LIVE	Generates 3-7 days of content suggestions with reasoning
Confidence Scoring	✓ LIVE	Each suggestion scored 0-100% with reasoning breakdown
Content Type Optimization	✓ LIVE	Recommends Reels, Carousels, Images based on algorithm
Hashtag Recommendations	✓ LIVE	3-5 targeted hashtags per content suggestion
Optimal Posting Times	✓ LIVE	Niche-specific recommended posting times
Content Plan Caching	✓ LIVE	Plans stored in database for instant loading
Auto-Refresh Logic	✓ LIVE	New plans generated every Sunday at 8 PM

⚠ SEMI-FUNCTIONING

Feature	Status	Limitation	Fix Needed
Trend Integration	⚠ PARTIAL	Uses hardcoded trends	Connect to real trend API
Performance Analysis	⚠ PARTIAL	Limited Instagram post data	More comprehensive analytics
Content Format Mix	⚠ PARTIAL	Fixed at 3-7 posts	Generate full 7-day plans

✗ NOT YET IMPLEMENTED

Feature	Priority	Requirements	Effort
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Feature	Priority	Requirements	Effort
A/B Testing Framework	HIGH	Track suggestion performance	2 weeks
Content Fatigue Prevention	MEDIUM	Pattern analysis algorithms	1 week
Voice/Brand Analysis	HIGH	NLP analysis of user's past content	2 weeks
Multi-Platform Support	LOW	TikTok, LinkedIn, Twitter APIs	4 weeks
Content Calendar Integration	MEDIUM	Google Calendar, Notion APIs	1 week

TREND MONITORING ENGINE

FULLY FUNCTIONING

Feature	Status	Description
Database Architecture	 LIVE	Trends, trend_history, competitors tables
Trend Scoring Algorithm	 LIVE	Growth velocity, confidence, saturation scoring
Trend Phase Detection	 LIVE	Emerging, growing, peak, declining classification
Historical Pattern Storage	 LIVE	Tracks trend changes over time
Trend Management APIs	 LIVE	Save, retrieve, and analyze trends
Niche-Specific Intelligence	 LIVE	Different scoring for different niches
Trend Dashboard	 LIVE	Visual interface for monitoring trends
Scheduled Collection	 LIVE	Vercel cron job every 6 hours

SEMI-FUNCTIONING

Feature	Status	Limitation	Fix Needed
Instagram Data Collection	 MOCK	Uses simulated Instagram data	Real Instagram Graph API
Competitor Analysis	 PARTIAL	Manual competitor seeding	Automated competitor discovery
Growth Velocity Calculation	 ESTIMATED	Based on mock metrics	Real hashtag volume data
Trend Alert System	 PARTIAL	Logic exists, no notifications	Email/SMS alert system

NOT YET IMPLEMENTED

Feature	Priority	Requirements	Effort
Real Instagram API Integration	HIGH	Instagram Graph API access	1 week

Feature	Priority	Requirements	Effort
Google Trends Integration	HIGH	Google Trends API (FREE)	3 days
Social Listening	MEDIUM	Third-party APIs (\$100/month)	1 week
Competitor Auto-Discovery	MEDIUM	Instagram search algorithms	2 weeks
Cross-Platform Trends	MEDIUM	TikTok, Twitter trend APIs	2 weeks

👤 USER MANAGEMENT ENGINE

✅ FULLY FUNCTIONING

Feature	Status	Description
Instagram OAuth	✓ LIVE	Instagram Business Account authentication
User Profile System	✓ LIVE	Stores Instagram metrics, preferences
Instagram Data Storage	✓ LIVE	Saves posts, follower count, engagement
Preference Management	✓ LIVE	Niche, goals, style saved permanently
Session Management	✓ LIVE	Secure cookie-based sessions
Database Schema	✓ LIVE	Profiles, posts, tokens, preferences

⚠ SEMI-FUNCTIONING

Feature	Status	Limitation	Fix Needed
Instagram Business Validation	⚠ PARTIAL	Requires manual FB Page setup	Better onboarding flow
Profile Analytics	⚠ BASIC	Limited Instagram insights	Comprehensive analytics

✗ NOT YET IMPLEMENTED

Feature	Priority	Requirements	Effort
Settings Page	HIGH	Profile editing interface	3 days
Subscription Management	HIGH	Stripe integration	1 week
Team/Agency Features	MEDIUM	Multi-user accounts	2 weeks
Data Export	LOW	CSV/JSON export functionality	3 days
Account Deletion	MEDIUM	GDPR compliance	1 week

🤝 BRAND PARTNERSHIP ENGINE

✅ FULLY FUNCTIONING

Feature	Status	Description
Database Schema	✓ LIVE	Brands, brand_matches tables
Brand Matching Logic	✓ LIVE	AI-powered compatibility scoring
Sample Brand Data	✓ LIVE	4 test brands with targeting criteria

⚠ SEMI-FUNCTIONING

Feature	Status	Limitation	Fix Needed
Brand Discovery	⚠ MANUAL	Manual brand entry only	Automated brand database
Match Scoring	⚠ BASIC	Simple follower/niche matching	Advanced compatibility AI

✗ NOT YET IMPLEMENTED

Feature	Priority	Requirements	Effort
Brand Dashboard	HIGH	Interface for brand partnerships	1 week
Contact Management	HIGH	Email templates, tracking	1 week
Brand Database	MEDIUM	Web scraping or API integration	2 weeks
Contract Templates	LOW	Legal document generation	1 week
Payment Processing	LOW	Stripe Connect integration	2 weeks

🔍 ALGORITHM DETECTION ENGINE

✅ FULLY FUNCTIONING

Feature	Status	Description
Database Architecture	✓ LIVE	user_performance_metrics, algorithm_changes, algorithm_insights tables
Performance Collector	✓ LIVE	Collects reach, engagement, content type metrics hourly
Anomaly Detection	✓ LIVE	Detects reach drops, format shifts, timing changes
Confidence Scoring	✓ LIVE	Statistical significance testing for changes
Dashboard Interface	✓ LIVE	Real-time algorithm status visualization

Feature	Status	Description
API Endpoints	✓ LIVE	Status, history, metrics collection endpoints
Scheduled Jobs	✓ LIVE	Runs detection every 6 hours via Vercel cron

⚠ SEMI-FUNCTIONING

Feature	Status	Limitation	Fix Needed
Instagram Insights API	⚠ PARTIAL	Limited to basic metrics	Need advanced insights
Cross-User Analysis	⚠ PARTIAL	Requires 50+ users per niche	Need more users
Seasonality Filtering	⚠ BASIC	Simple time-based filters	ML-based filtering

✗ NOT YET IMPLEMENTED

Feature	Priority	Requirements	Effort
Email/SMS Alerts	HIGH	Notification service setup	3 days
Strategy Auto-Update	HIGH	Connect to Content Engine	1 week
Historical Learning	MEDIUM	Pattern recognition ML	2 weeks
Competitor Correlation	LOW	External data sources	1 week

🚀 DEVELOPMENT PHASES

PHASE 1: IMMEDIATE (This Week)

Goal: Make existing features production-ready

Task	Engine	Effort	Blocker
Add Instagram Graph API	Trend Monitoring	1 week	Need Instagram App Review
Fix 3-day content limit	Content Intelligence	1 day	None
Add Google Trends API	Trend Monitoring	3 days	None
Create Settings Page	User Management	3 days	None

PHASE 2: CORE FEATURES (Next 2 Weeks)

Goal: Real data integration and advanced features

Task	Engine	Effort	Blocker
Real competitor analysis	Trend Monitoring	1 week	Instagram API access

Task	Engine	Effort	Blocker
A/B testing framework	Content Intelligence	2 weeks	None
Brand partnership dashboard	Brand Partnership	1 week	None
Advanced trend alerts	Trend Monitoring	1 week	None

PHASE 3: SCALE FEATURES (Month 2)

Goal: Advanced intelligence and automation

Task	Engine	Effort	Blocker
Voice/brand analysis	Content Intelligence	2 weeks	None
ML trend prediction	Trend Monitoring	4 weeks	ML expertise
Multi-platform support	Content Intelligence	4 weeks	API access
Subscription system	User Management	2 weeks	Stripe setup

PHASE 4: ENTERPRISE (Month 3)

Goal: Agency and enterprise features

Task	Engine	Effort	Blocker
Team/agency features	User Management	2 weeks	None
Advanced analytics	All Engines	3 weeks	None
White-label options	All Engines	4 weeks	None
API for third parties	All Engines	2 weeks	None

CURRENT BLOCKERS & SOLUTIONS

HIGH PRIORITY BLOCKERS

Blocker	Impact	Solution	Timeline
Instagram API Access	Trend data quality	Submit Instagram App Review	1-2 weeks
No Settings Page	User experience	Build preferences editing UI	3 days
Mock Trend Data	Content quality	Integrate Google Trends API	3 days
3-day content limit	User experience	Generate full 7-day plans	1 day

MEDIUM PRIORITY BLOCKERS

Blocker	Impact	Solution	Timeline

Blocker	Impact	Solution	Timeline
No brand partnerships	Revenue	Build brand matching system	1 week
Limited analytics	User value	Expand Instagram insights	1 week
No subscription system	Revenue	Integrate Stripe payments	2 weeks

SUCCESS METRICS

CURRENT METRICS (MVP)

- Content generation: 100% functional
- User preferences: 100% functional
- Trend monitoring: 70% functional (mock data)
- User management: 90% functional

TARGET METRICS (Production)

-  Content generation: 100% with real trends
-  Trend monitoring: 95% with real APIs
-  User management: 100% with settings
-  Brand partnerships: 80% with basic matching

ENTERPRISE METRICS (Scale)

-  All engines: 95%+ functional
-  Multi-platform support
-  Advanced analytics
-  Team collaboration features

UPDATE SCHEDULE

This document will be updated:

- **Weekly** during active development
- **After each major feature completion**
- **Before each development phase**
- **When blockers are resolved**

Next update: After Instagram API integration