PRODUCT REQUIREMENTS DOCUMENT (PRD)

SkillSync Peer Learning Exchange Platform

Document Control

• **Product Name:** SkillSync Exchange Platform

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• **Document Owner:** [Your Name/Team]

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• **Distribution:** Product Team, Engineering, Design, Stakeholders

1. EXECUTIVE SUMMARY

1.1 Vision Statement

Create the world's most trusted and engaging peer-to-peer learning ecosystem that democratizes skill acquisition through AI-powered matching, community-driven validation, and immersive learning experiences.

1.2 Product Overview

SkillSync is a next-generation peer-to-peer learning platform that connects individuals who want to teach specific skills with those eager to learn them. Unlike traditional learning platforms, SkillSync uses sophisticated AI matching, gamified skill verification, and a unique credit economy to create meaningful, high-quality learning exchanges.

1.3 Strategic Objectives

• User Acquisition: Achieve 10,000 active users within first 6 months

• Quality Metrics: Maintain 85%+ successful session completion rate

• User Satisfaction: Establish 4.5+ average rating across all exchanges

• Engagement: Generate 50,000+ skill exchange hours in year one

• Monetization: Achieve 15% credit purchase conversion rate

• **Retention:** 60% return user rate within 30 days

1.4 Success Criteria

• Monthly Active Users (MAU) growth: 20% month-over-month

• Week 1 retention: 40%

• Month 1 retention: 25%

• Average sessions per user: 4/month

• Referral rate: 25% of new users from referrals

2. PROBLEM STATEMENT & MARKET OPPORTUNITY

2.1 Problem Definition

For Learners:

1. Cost Barrier: Traditional education is prohibitively expensive

• Bootcamps: \$10K-\$50K

• University degrees: \$40K-\$200K

• Professional courses: \$500-\$5K

2. **Time Constraints:** Rigid schedules don't accommodate working professionals

3. Generic Content: One-size-fits-all courses lack personalization

4. Lack of Mentorship: No access to real practitioners in the field

For Teachers/Experts:

1. Monetization Gaps: No effective platforms for micro-teaching

2. Recognition Issues: Teaching efforts go unrecognized

3. Platform Limitations: Existing platforms don't facilitate skill trades

Platform Gaps in Current Market:

1. Poor Matching: Basic keyword matching misses compatibility factors

2. Trust Issues: No robust verification or quality assurance

3. Low Engagement: Passive learning experiences

4. No Accountability: Weak commitment mechanisms

2.2 Market Opportunity

• Global Market Size: \$350B+ online education market by 2025

- Growth Rate: Peer learning segment growing 25% YoY
- Target Audience: 67% of professionals prefer skill-based learning
- Trend Drivers: Remote work, career transitions, lifelong learning culture
- Competitive Landscape: Fragmented market with no dominant P2P player

2.3 Why Now?

- Remote work normalized post-2020
- AI/ML technologies matured for sophisticated matching
- Gig economy mindset drives skill-trading culture
- Video conferencing infrastructure ubiquitous
- Trust in peer-to-peer platforms increasing

3. TARGET USERS & PERSONAS

3.1 Persona 1: Sarah - The Career Switcher

Demographics:

• Age: 28

• Occupation: Marketing professional → UX Design

• Location: Urban area

• Income: \$60K/year

• Education: Bachelor's degree

Goals:

- Learn UX design affordably
- Gain real-world mentorship
- Build portfolio projects
- Maintain flexible schedule (evenings/weekends)

Pain Points:

- Can't afford \$15K bootcamps
- Needs practical, project-based experience
- Limited time due to full-time job

• Wants personalized feedback

Behaviors:

- Watches YouTube tutorials
- Active on LinkedIn Learning
- Seeks online communities
- Willing to pay small amounts for quality

Key Features Needed:

- AI matching with experienced designers
- Flexible scheduling
- Project-based learning
- Skill verification badges
- Affordable credit system

3.2 Persona 2: Alex - The Skilled Hobbyist

Demographics:

• Age: 35

• Occupation: Software developer + guitarist

• Location: Suburban area

• Income: \$120K/year

• Education: Computer Science degree

Goals:

- Share coding expertise
- Learn advanced music theory
- Earn recognition/credits
- Give back to community

Pain Points:

- No platform for effective skill trades
- Teaching opportunities scattered

• Wants meaningful impact tracking

Behaviors:

- Active on developer forums
- Creates side projects
- Enjoys teaching/mentoring
- Values efficiency

Key Features Needed:

- Credit economy for teaching
- Expert verification system
- Teaching analytics dashboard
- Scheduling automation
- Quality learner matching

3.3 Persona 3: Maya - The College Student

Demographics:

• Age: 21

• Occupation: Computer Science major

• Location: College town

• Income: Limited/part-time

• Education: Undergraduate

Goals:

- Supplement classroom learning
- Build professional network
- Gain practical experience
- Strengthen resume

Pain Points:

- Textbook learning insufficient
- Limited budget

- Needs real-world projects
- Career uncertainty

Behaviors:

- Heavy social media user
- Participates in study groups
- Seeks internships
- Active on student forums

Key Features Needed:

- Free starter credits
- Peer study groups
- Skill badges for LinkedIn
- Student verification
- Collaborative learning

4. PRODUCT FEATURES & REQUIREMENTS

4.1 CORE FEATURES (MVP - Priority 1)

Feature 1: Intelligent User Profiles

Description: Comprehensive, skills-based profiles that power matching and build trust

User Stories:

- As a user, I want to create a detailed profile showcasing my teachable skills so potential learners can discover me
- As a user, I want to list skills I want to learn with proficiency targets for appropriate matching
- As a user, I want verification badges to build trust with matches

Requirements:

Profile Components:

- Personal Information
 - Full name (2-50 characters)
 - Profile photo (JPG/PNG, max 5MB, min 200x200px)

• Bio (500 characters max) • Location (city, country) • Timezone (auto-detect with manual override) Skill Inventory • Minimum 3 teachable skills • Minimum 3 learning interests • Proficiency levels: Beginner (0-25%), Intermediate (26-60%), Advanced (61-85%), Expert (86-100%) • Skills categorized: Technology, Business, Creative, Language, Health & Fitness, Science, Trades, Arts, Marketing, Finance, Personal Development, Lifestyle Availability • Weekly calendar (7-day grid) • Time blocks (15-min increments) • Recurring availability patterns • Timezone display • Trust Indicators • Email verification (required) • Phone verification (optional) • LinkedIn connection (optional) • Skill assessment badges • Peer endorsements • Session completion count Average ratings

Acceptance Criteria:

Profile completeness indicator shows 0-100%
☐ Minimum 3 skills required before matching unlocked
☐ Image uploads compressed and optimized automatically
☐ Profile visible/searchable only when >60% complete
Users can edit all fields except verified credentials
Profile URL is shareable (e.g., skillsync.com/user/sarah-johnson)

Success Metrics:

• 80%+ users complete profile to 70%+ within first session

- Average profile completeness: 75%
- 60%+ users add verification badges

Feature 2: AI-Powered Matching Algorithm

Description: Multi-dimensional matching system considering skills, availability, learning styles, and success rates

User Stories:

- As a user, I want personalized match recommendations based on complementary skills
- As a user, I want to filter matches by availability, location, teaching style, and ratings
- As a user, I want to understand why each person was matched with me

Requirements:

Matching Factors:

1. Skill Complementarity (40% weight)

- Direct skill match (I teach X, they want to learn X)
- Complementary skills (potential for skill trades)
- Proficiency gap appropriateness
- Skill category overlap

2. Availability Overlap (20% weight)

- Timezone compatibility
- Shared available time blocks (minimum 2 hours/week)
- Schedule flexibility score

3. Learning Style Compatibility (15% weight)

- Teaching preference (structured vs. casual)
- Session duration preferences
- Communication style
- Learning pace

4. Rating History (15% weight)

- Both users have 3.5+ ratings (if rated)
- Consistent quality across sessions

• Weighted by recency

5. Response Rate (10% weight)

- Message response time
- Session confirmation rate
- Historical reliability

Matching Process:

- Algorithm runs daily at 12:00 AM user's local time
- Generates top 20 matches per user
- Updates dynamically when profiles change
- Excludes blocked users
- Prioritizes new matches over repeated suggestions

Match Actions:

- Favorite: Save for later, increase visibility
- Pass: Remove from feed, don't show again for 30 days
- **Block:** Permanent removal from matches
- Connect: Send match request with optional message

Acceptance Criteria:

■ Match score displays as percentage (0-100%)
\square Explanation provided for each match ("90% match because")
☐ Algorithm executes in <3 seconds
Users receive 5-20 new suggestions daily
☐ Filter results update in real-time (<500ms)
No duplicate matches within 30-day window

Success Metrics:

- Match acceptance rate >30%
- Average match score >75%
- User satisfaction with matches: 4+/5 stars

Feature 3: Session Management System

Description: Complete lifecycle management for skill exchange sessions from proposal to completion

User Stories:

- As a user, I want to propose session times and receive confirmations
- As a user, I want integrated calendar sync with Google/Outlook
- As a user, I want automatic reminders before sessions
- As a user, I want to reschedule or cancel with appropriate policies

Requirements:

Session Proposal:

- Initiate from match profile or chat
- Select skill to be taught/learned
- Choose session type:
 - One-time session
 - Recurring series (weekly/bi-weekly)
 - Multi-session program (2-8 weeks)
- Duration options: 30min, 1hr, 2hr, custom (15-180 min)
- Propose up to 5 time slots
- Add optional agenda/goals (500 characters)
- Specify credit cost (if premium)

Session Response:

- Accept: Confirms session, generates calendar invite
- **Decline:** Provides reason (optional)
- Counter-propose: Suggests alternative times

Session Confirmation:

- Auto-generate video meeting link (Zoom/Google Meet)
- Send calendar invite (.ics file)
- Email confirmation to both parties
- Display in "Upcoming Sessions" dashboard
- Add to profile session counter (pending)

Reminders:

- 24 hours before: Email + push notification
- 1 hour before: Email + push notification
- 15 minutes before: Push notification + in-app alert

Session Actions:

- **Reschedule:** Request new times (both must agree)
- Cancel:
 - 24 hours notice: Full credit refund
 - 2-24 hours notice: 50% credit refund
 - <2 hours notice: No refund (unless teacher cancels)
- Join: Click video link (available 15 min before)
- Complete: Automatic status change when time elapsed

Calendar Integration:

- OAuth connection to Google Calendar
- OAuth connection to Outlook/Microsoft Calendar
- Two-way sync (platform \rightarrow calendar, calendar \rightarrow platform)
- Update events on reschedule/cancellation
- Include video link in calendar event

Acceptance Criteria:

Session proposal	created in <5 clicks
☐ Video link gener	ates within 2 seconds

- Calendar invites sent within 1 minute of confirmation
- Reminders trigger at exact scheduled times
- Cancellation policy enforced automatically
- Session history persists for 12 months

Success Metrics:

- Session proposal acceptance rate: >70%
- Session completion rate: >85%
- On-time start rate: >90%
- Cancellation rate: <10%

Feature 4: Integrated Communication Hub

Description: Real-time messaging and resource sharing between matched users

User Stories:

- As a user, I want to chat with matched users before committing to sessions
- As a user, I want to share resources (documents, links, videos) within the platform
- As a user, I want to search chat history to reference past conversations
- As a user, I want to report inappropriate behavior

Requirements:

Chat Features:

- Real-time text messaging (WebSocket/Socket.io)
- Typing indicators ("User is typing...")
- Read receipts (seen/delivered status)
- Message history (unlimited retention)
- Emoji support
- Link previews (auto-generate for URLs)

File Sharing:

- Supported formats: PDF, DOC, DOCX, XLS, XLSX, JPG, PNG, MP4, ZIP
- Maximum file size: 10MB per file
- Virus scanning before storage
- CDN delivery for fast downloads
- Resource library per conversation pair
- File preview for images/PDFs

Message Management:

- Search messages (full-text search)
- Pin important messages
- Delete messages (both sides or just for self)
- Archive conversations
- Mute notifications per conversation

Safety Features:

- Report user (harassment, spam, inappropriate content)
- Block user (prevents all future contact)
- AI-powered content moderation (flags suspicious patterns)
- End-to-end encryption for messages
- Admin review queue for reports

Acceptance Criteria:

Messages deliver in <1 second
☐ File uploads complete in <10 seconds (for 10MB)
☐ Search returns results in <500ms
☐ Blocked users cannot send messages or view profile
Reported content flagged for admin review within 5 minutes
Chat history loads instantly (cached)

Success Metrics:

- Average messages per matched pair: 8+
- Response rate: >70%
- Average response time: <2 hours
- Report rate: <1% of users

Feature 5: Rating & Feedback System

Description: Post-session evaluation system ensuring quality and accountability

User Stories:

- As a user, I want to rate my experience after each session (quality, punctuality, communication)
- As a user, I want to view aggregate ratings before matching
- As a user, I want private feedback sent to participants

Requirements:

Rating Components:

- Overall rating (1-5 stars, required)
- Dimensional ratings (1-5 stars each):
 - Knowledge/Skill Transfer: "How much did you learn/teach?"

- Communication Quality: "How clear and responsive?"
- Professionalism: "Punctuality, respect, preparation?"
- Written review (optional, 500 characters max)
- Predefined tags: Punctual, Patient, Knowledgeable, Well-Prepared, Engaging, Clear Communicator, etc.

Rating Enforcement:

- Mandatory submission within 48 hours of session
- Cannot book new sessions until pending ratings submitted
- Both parties must rate to close session
- Automated reminder at 24 hours if not completed

Rating Display:

- Profile shows:
 - Overall average rating (weighted by recency)
 - Total sessions completed
 - Individual dimension averages
 - Recent reviews (last 5 visible)
 - Rating distribution graph $(5 \star, 4 \star, 3 \star, \text{ etc.})$
- Recency weighting:
 - Last 3 months: 60%
 - 3-12 months: 40%
 - 12 months: Not counted

Feedback Types:

- Public: Displayed on profile for all users
- **Private:** Sent only to rated user (constructive criticism)

Dispute Process:

- Users can dispute unfair ratings
- Admin reviews with session data
- Rating removed if violates policy (personal attacks, false claims)
- Dispute resolution within 3 business days

Acceptance Criteria:

Rating form appears immediately after session end time
 Users blocked from booking if 2+ overdue ratings
 Aggregate ratings update within 1 minute of submission
 Disputed ratings reviewed within 72 hours
 Anonymous ratings (names hidden)

Success Metrics:

• Rating completion rate: >90%

• Average rating across platform: 4.5+/5

• Dispute rate: <2%

Feature 6: Skill Credit Economy

Description: Virtual currency system enabling skill trades and platform monetization

User Stories:

- As a user, I want to earn credits by teaching sessions
- As a user, I want to spend credits to book premium teachers or features
- As a user, I want to purchase additional credits when needed

Requirements:

Credit Allocation:

- New users: 50 starter credits upon profile completion
- Referral bonus: 25 credits per successful referral (friend completes 1 session)

Earning Credits:

- Standard rate: 10 credits per 1-hour teaching session
- Prorated by duration:
 - 30 minutes: 5 credits
 - 2 hours: 20 credits
 - Custom: (minutes/60) × 10
- Credits awarded after BOTH parties submit ratings
- Bonus credits for milestones:
 - 10 sessions completed: 25 credits

- 50 sessions completed: 100 credits
- 100 sessions completed: 250 credits

Spending Credits:

- Standard sessions: 10 credits/hour (1:1 ratio with earnings)
- Premium teachers (4.8+ rating, 50+ sessions): 15-20 credits/hour
- Group sessions: 5 credits/hour per participant
- Priority matching: 20 credits (appear first in matches for 7 days)
- Profile boost: 15 credits (featured on homepage for 3 days)

Credit Purchases:

- Package options:
 - 100 credits: \$10.00 (10¢/credit)
 - 500 credits: \$45.00 (9¢/credit, 10% bonus)
 - 1,000 credits: \$80.00 (8¢/credit, 20% bonus)
- Payment methods: Credit card, PayPal, Apple Pay, Google Pay
- Instant credit delivery
- Purchase history tracked

Credit Refunds:

- Session cancelled >24 hours before: 100% refund
- Session cancelled 2-24 hours before: 50% refund
- Session cancelled <2 hours before: 0% refund
- Teacher cancels: Always 100% refund
- No-show by teacher: 100% refund + 10 bonus credits

Credit Expiration:

- Credits expire after 12 months of account inactivity
- Warning email sent at 11 months
- Purchased credits never expire

Credit History:

• Transaction log showing:

- Date/time
- Type (earned/spent/purchased/refunded/expired)
- Amount
- Running balance
- Related session (if applicable)
- Exportable as CSV

Acceptance Criteria:

Starter credits awarded within 1 minute of profile completion
Earned credits appear within 5 minutes of both ratings submitted
☐ Credit purchases process in <30 seconds
Refund policy automated (no manual review)
Balance displayed on all pages
■ Negative balance impossible (validation before booking)

Success Metrics:

- Credit purchase conversion: 15%+
- Average revenue per user (ARPU): \$5/month
- Credit circulation rate: 70% (earned credits eventually spent)

4.2 ADVANCED FEATURES (Post-MVP - Priority 2)

Feature 7: Learning Circles & Cohorts

Description: Group learning sessions (3-8 participants) for collaborative skill development

Requirements:

- Create/join topic-based learning circles
- Scheduled cohort programs (4-8 week duration)
- Peer accountability check-ins
- Shared progress dashboards
- Group video conferencing support (8 participants max)
- Reduced credit cost: 5 credits/hour per person

Feature 8: Skill Verification & Badges

Description: Community-validated skill certifications through peer assessments

Requirements:

- Request verification from 3+ peers who've learned from you
- Standardized assessment rubrics per skill category
- Digital badges displayed on profile
- LinkedIn integration for credential sharing
- Badge tiers: Verified → Proficient → Expert → Master

Feature 9: Progress Tracking & Analytics

Description: Personalized learning dashboards showing skill development

Requirements:

- Skills learned counter with proficiency progress bars
- Total hours taught/learned statistics
- Learning streak tracking (consecutive weeks active)
- Milestone celebrations (10 sessions, 50 hours, etc.)
- Exportable learning portfolio (PDF)

Feature 10: Micro-Learning Modules

Description: Quick 15-minute skill exchanges for time-constrained users

Requirements:

- "Quick Help" request system for immediate assistance
- 15-min session template library
- Skill sprint challenges (learn 1 new thing daily)
- Mobile app optimization for on-the-go learning

4.3 FUTURE ENHANCEMENTS (Priority 3)

- VR/AR immersive learning rooms
- AI-generated personalized learning paths

- Corporate/Educational institution partnerships
- Native mobile apps (iOS & Android)
- Offline session support with manual logging
- Multi-language support (10+ languages)
- Accessibility features (screen reader, closed captions)
- Blockchain-based skill credentials

5. USER EXPERIENCE REQUIREMENTS

5.1 Design Principles

1. Simplicity First

- Onboarding completed in <5 minutes
- Maximum 3 clicks to any core feature
- Progressive disclosure (show advanced features only when needed)

2. Trust & Safety

- Prominently display ratings, verifications, reviews
- Clear safety guidelines visible
- Easy-to-find report/block buttons

3. Engagement

- Gamification elements throughout (badges, streaks, milestones)
- Celebratory animations for achievements
- Progress visualization

4. Accessibility

- WCAG 2.1 AA compliance minimum
- Keyboard navigation support
- Screen reader compatibility
- High contrast mode

5. Responsiveness

- Mobile-first design
- Works seamlessly on 320px to 2560px screens
- Touch-optimized UI elements (44x44px minimum)

5.2 Key User Flows

Flow 1: Onboarding (New User)

- 1. Land on homepage → View value proposition
- 2. Click "Sign Up" → Choose email or social OAuth
- 3. Verify email (if email signup)
- 4. Create profile:
 - Add photo
 - Write bio
 - Add 3 skills to teach
 - Add 3 skills to learn
 - Set availability
- 5. Profile completeness reaches 70%
- 6. View first 5 match suggestions
- 7. Send first connection request

Flow 2: Session Booking

- 1. Browse/receive match suggestions
- 2. Click on match profile \rightarrow View details
- 3. Send initial message/connection request
- 4. Chat to establish rapport
- 5. Propose session times (up to 5 slots)
- 6. Receive confirmation
- 7. Get calendar invite with video link
- 8. Receive reminders (24hr, 1hr, 15min)
- 9. Join session via video link
- 10. Submit post-session rating

Flow 3: Credit Management

- 1. View credit balance on dashboard
- 2. Complete teaching session → Earn credits
- 3. Browse potential learning sessions

- 4. Book session → Spend credits
- 5. (Optional) Purchase additional credits
- 6. Track credit history

Flow 4: Skill Verification

- 1. Complete 5+ sessions teaching specific skill
- 2. Request verification from 3 past learners
- 3. Learners complete assessment rubric
- 4. Receive verified badge on profile
- 5. Share badge on LinkedIn

6. SUCCESS METRICS & KPIs

6.1 User Acquisition Metrics

- Monthly Active Users (MAU): 20% month-over-month growth
- New Registrations: 500/month by Month 6
- Referral Rate: 25% of new users from referrals
- Acquisition Cost (CAC): <\$15 per user
- Organic vs. Paid: 60% organic by Month 6

6.2 Engagement Metrics

- Average Sessions per User: 4/month
- Session Completion Rate: 85%+
- Return User Rate: 60% within 30 days
- Daily Active Users (DAU): 30% of MAU
- Average Session Duration: 55+ minutes (for 1-hour bookings)
- Messages per Match: 8+ messages

6.3 Retention Metrics

- Week 1 Retention: 40%
- Month 1 Retention: 25%
- Month 3 Retention: 15%

• Month 6 Retention: 10%

• Churn Rate: <10%/month

6.4 Quality Metrics

• Average Session Rating: 4.5+/5 stars

• No-show Rate: <5%

• Dispute Rate: <2%

• Report Rate: <1%

• Match Acceptance Rate: 30%+

6.5 Revenue Metrics (If Applicable)

• Credit Purchase Conversion: 15%

• Average Revenue Per User (ARPU): \$5/month

• Customer Lifetime Value (LTV): \$60+

• LTV:CAC Ratio: 4:1 minimum

6.6 Platform Health Metrics

• Average Match Score: 75%+

• Profile Completeness: 75% average

• **Verification Rate:** 40%+ of users

• Skills per User: 5+ average

7. COMPETITIVE ANALYSIS

7.1 Direct Competitors

Platform	Strengths	Weaknesses	Our Advantage
SkillSwap	Established brand, simple UI	Basic matching, no verification	AI matching, credit economy
Teachable	Course infrastructure	Not peer-to-peer focused	True P2P, flexible scheduling
Udemy	Large user base	One-way learning, no interaction	Two-way exchanges, personal mentorship
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7.2 Our Unique Value Propositions

1. Multi-Dimensional AI Matching

• Beyond keyword matching

• Considers personality, learning styles, timezone, success rates

2. Skill Credit Economy

- Fair value exchange
- Not fully free or fully paid
- Gamification with real utility

3. Trust & Verification Layer

- Peer-validated skill badges
- Progressive trust levels
- Video verification options

4. Micro-Learning Integration

- 15-min quick sessions
- On-demand help requests
- Fits busy schedules

5. Community-Driven Learning

- Learning circles (3-8 people)
- Cohort-based programs
- Collaborative progress tracking

8. LAUNCH STRATEGY

8.1 Phase 1: Closed Beta (Months 1-2)

Goal: Validate core features, gather intensive feedback

Activities:

- Invite-only: 100-200 users
- Focus on local community (1 city)
- Weekly feedback sessions
- Rapid iteration on core features
- Key metrics: Session completion rate, user satisfaction

Success Criteria:

• 70%+ session completion rate

- 4.0+ average rating
- 80%+ users rate experience as "good" or "excellent"

8.2 Phase 2: Open Beta (Months 3-4)

Goal: Scale to 1,000 users, refine matching algorithm

Activities:

- Public launch (waitlist access)
- Geographic expansion (5 cities)
- Influencer partnerships (micro-influencers in education/tech)
- Content marketing campaign (blog posts, videos)
- Community building (Discord/Slack)

Success Criteria:

- 1,000 active users
- 85%+ session completion rate
- 30%+ match acceptance rate
- 20% week-over-week growth

8.3 Phase 3: Public Release (Month 5+)

Goal: Full feature set, aggressive growth

Activities:

- Full public launch (no waitlist)
- Multi-channel marketing (paid ads, SEO, social)
- Partnership outreach (universities, bootcamps, companies)
- Press releases and media coverage
- Referral program activation

Success Criteria:

- 10,000 active users by Month 6
- All success metrics from Section 6 achieved
- Positive unit economics

9. RISKS & MITIGATION STRATEGIES

Risk	Impact	Probability	Mitigation Strategy
Low user	High	Medium	- Aggressive referral program - Free starter credits - Influencer
adoption			partnerships br>- Community seeding
Poor match	High Medium		- Continuous algorithm improvement - Manual curation initially
quality			User feedback loop - A/B testing matching factors
Trust/safety issues	High	Low	- Robust verification system - 24/7 reporting mechanism br>- AI
			content moderation
Technical	Medium Low	- Cloud infrastructure (AWS/GCP) - Performance monitoring 	
scalability	Wicdiani	Low	Load testing before launch br>- Microservices architecture
Competitor emergence	Medium	High	- Rapid feature development - Community building (network effects)
			<pre> br>- Focus on quality over growth der>- Unique value props (credit)</pre>
			economy, AI matching)
Video platform	N. II. T.	- Multi-provider support (Zoom + Google Meet) br>- Negotiate	
dependency	Medium Low		SLAs br>- Backup communication methods
Low monetization	Medium	Medium	- Optimize credit pricing - Introduce premium features - B2B
			partnerships (corporate plans)
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10. TECHNICAL REQUIREMENTS OVERVIEW

10.1 Technology Stack Recommendations

Frontend:

• Framework: React 18+ with TypeScript

• State Management: Redux Toolkit or Zustand

• UI Library: Tailwind CSS + Headless UI or Material-UI

• Real-time: Socket.io client

• Video Integration: Zoom SDK or Daily.co API

Backend:

• Runtime: Node.js 20+ with Express.js

Database: PostgreSQL (relational) + Redis (caching)

• File Storage: AWS S3 or Cloudflare R2

• Authentication: JWT + OAuth 2.0 (Google, LinkedIn)

• Real-time: Socket.io server

AI/ML Services:

- Matching Algorithm: Python (scikit-learn) or TensorFlow
- Recommendation Engine: Collaborative filtering + Content-based
- NLP: OpenAI API or Hugging Face (skill extraction)

Infrastructure:

- Hosting: AWS (EC2, ECS) or Vercel + Railway
- CDN: CloudFlare
- Monitoring: Datadog or New Relic
- Analytics: Mixpanel or Amplitude

10.2 Performance Requirements

- Page load time: <2 seconds (initial), <500ms (subsequent)
- API response time: <200ms (p95)
- Matching algorithm execution: <3 seconds
- Support 10,000 concurrent users
- 99.9% uptime SLA

10.3 Security Requirements

- HTTPS/TLS 1.3 encryption
- OWASP Top 10 vulnerability mitigation
- GDPR & CCPA compliance
- Data encryption at rest (AES-256)
- Regular security audits (quarterly)
- Rate limiting on all public APIs
- Two-factor authentication (optional)

11. APPENDICES

Appendix A: Glossary

- Session: A scheduled learning exchange between two or more users
- Skill Credit: Virtual currency earned by teaching, spent on learning

- Match Score: Algorithm-generated compatibility rating (0-100%)
- Learning Circle: Group learning session with 3-8 participants
- Verification Badge: Community-validated skill certification
- **Proficiency Level:** User's expertise in a skill (Beginner/Intermediate/Advanced/Expert)

Appendix B: Open Questions

- 1. Should we support cryptocurrency payments for credits?
- 2. What's the optimal credit-to-dollar conversion rate?
- 3. Should we implement a reputation decay system for inactive users?
- 4. How do we handle disputes when both parties claim the other no-showed?

Appendix C: Future Considerations

- Integration with company learning management systems (LMS)
- White-label solutions for educational institutions
- API access for third-party developers
- Blockchain-based skill credentials
- AI-powered session recording and transcription

Document End