CareerGPS MVP Document

AI-Powered Career Transition Platform

Version: 1.0

Date: December 2024 **Status**: MVP Specification

Executive Summary

CareerGPS is an AI-powered platform that creates personalized learning roadmaps for career transitions. It provides structured learning paths with curated resources, knowledge assessments, and progress tracking to help professionals successfully transition between roles.

Core Value Proposition

"Transform your career with Al-generated roadmaps that show exactly what to learn, where to learn it, and track your progress every step of the way."

MVP Features

1. AI-Powered Learning Roadmap Generator

- Personalized career transition paths from current role to target role
- Monthly milestones with specific learning objectives
- Time estimates based on available hours per week
- Difficulty ratings and prerequisites

2. Curated Learning Resources with Direct Links

- Verified course links from multiple platforms (Coursera, Udemy, YouTube, etc.)
- Free and paid options clearly marked
- Duration and difficulty level for each resource
- User ratings and completion statistics

3. Knowledge Assessment System

- Multiple-choice questions for each learning module
- Progressive difficulty levels

- Instant feedback with explanations
- Retake options for failed assessments

4. Visual Progress Tracking

- Interactive progress dashboard
- Milestone completion indicators
- Skill proficiency meters
- Estimated time to completion

Technical Architecture

Frontend (React + TypeScript)

typescript

// Core Components

- RoadmapGenerator
- LearningMilestone
- AssessmentModule
- ProgressDashboard
- ResourceCard

Backend (FastAPI + LangChain)

python

- # Core Services
- Roadmap Generation Service
- Resource Curation Service
- Assessment Generation Service
- Progress Tracking Service

Database Schema

```
sql

-- Core Tables
users
roadmaps
milestones
resources
assessments
```

III User Journey

user_progress

1. Onboarding Flow

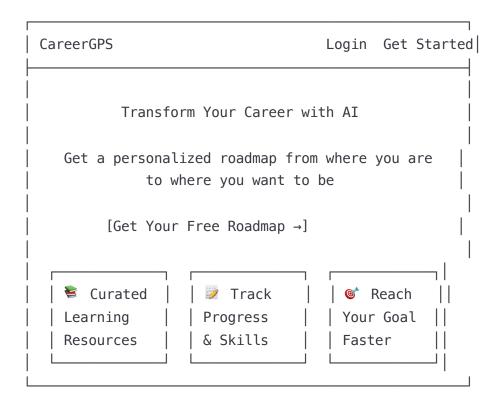
```
Landing Page → Enter Current Role → Add Skills →
Select Target Role → Set Preferences →
Generate Roadmap → Create Account → Begin Learning
```

2. Learning Flow

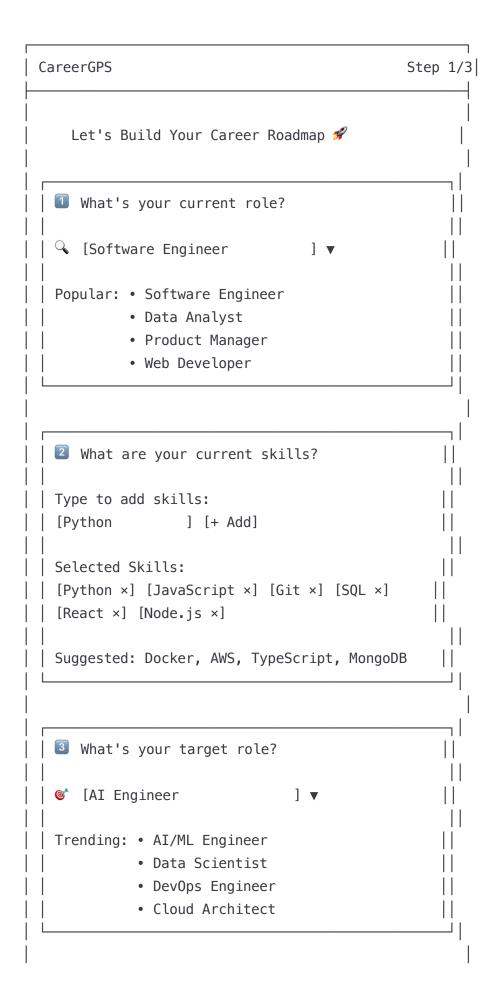
```
View Milestone → Access Resources → Complete Learning → Take Assessment → Track Progress → Next Milestone
```

UI/UX Mockups

Home Page / Landing Page

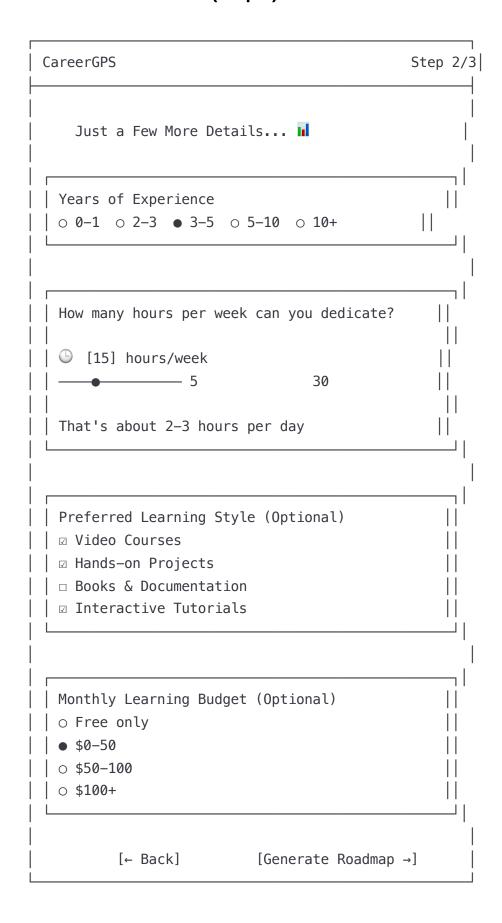


Roadmap Generation Form (Main Input Page)

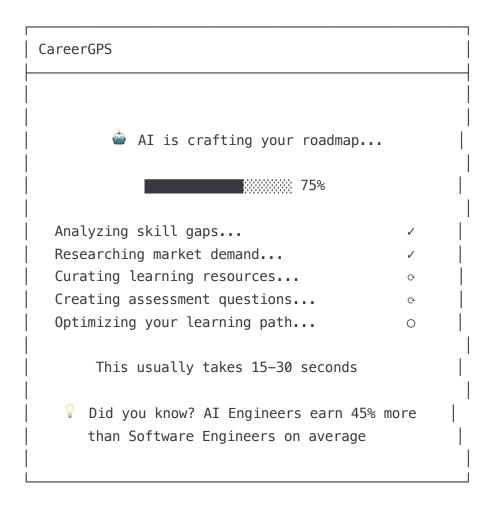


[← Back] [Continue →]

Additional Details Form (Step 2)



Roadmap Generation Loading Screen



Roadmap Preview (Step 3)

```
CareerGPS
                                            Step 3/3
 Your Personalized Roadmap is Ready!
 Software Engineer → AI Engineer
 Estimated Timeline: 6 months | 15 hrs/week
 Your Learning Journey:
 Month 1−2: Foundation □
 • Python Advanced Techniques
 • Mathematics for ML

    Introduction to Machine Learning

 🛢 8 Resources | 📝 3 Assessments | 60 hrs
Month 3-4: Deep Dive 🥗
 • Deep Learning Fundamentals

    Neural Networks & CNNs

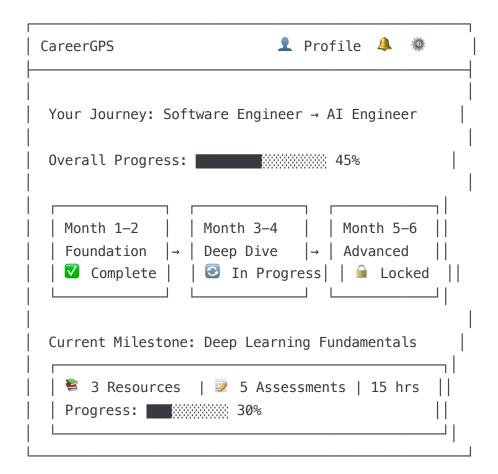
 • TensorFlow/PyTorch Mastery
 🛢 6 Resources | 📝 4 Assessments | 80 hrs
 Month 5−6: Specialization 🖋
 • Large Language Models (LLMs)

    MLOps & Deployment

    Build Portfolio Projects

 🔰 5 Resources | 📝 3 Assessments | 70 hrs
 Total: 19 Resources | 10 Assessments | 210 hrs
 Difficulty: 7.5/10
  [Start Learning Now →] [Save for Later]
 Already have an account? [Login to save]
```

Dashboard View



Milestone Detail View

```
< Back
          Milestone: Deep Learning Fundamentals
Learning Objectives:
✓ Understand neural network architecture
✓ Implement backpropagation
○ Build your first CNN
O Master activation functions
Resources:
  1. Neural Networks and Deep Learning
     Platform: Coursera | Duration: 20 hrs
     [Start Learning →]
  2. Deep Learning with Python (Book)
     Platform: O'Reilly | Duration: 15 hrs
     Cost: $45 | Rating: \Rightarrow \Rightarrow \Rightarrow \Rightarrow \Rightarrow (4.5)
      [Access Resource →]
Ready for Assessment? [Take Quiz →]
```

Assessment View

Data Models

Roadmap Model

```
json
{
 "roadmap_id": "uuid",
 "user id": "uuid",
 "current_role": "Software Engineer",
 "target role": "AI Engineer",
 "created_at": "2024-12-20T10:00:00Z",
  "milestones": [
   {
     "milestone_id": "uuid",
     "title": "Foundation Building",
     "description": "Master Python and ML basics",
     "order": 1,
     "duration weeks": 8,
     "resources": [...],
     "assessments": [...],
     "skills": ["Python Advanced", "ML Fundamentals"]
   }
 ],
 "total_duration_months": 6,
 "difficulty_rating": 7.5
}
```

Resource Model

```
"resource_id": "uuid",
   "title": "Machine Learning Course",
   "type": "course",
   "platform": "Coursera",
   "url": "https://coursera.org/learn/machine-learning",
   "duration_hours": 60,
   "cost": 0,
   "difficulty": "beginner",
   "rating": 4.9,
   "skills_covered": ["ML Basics", "Algorithms"]
}
```

Assessment Model

```
json
{
 "assessment_id": "uuid",
 "milestone_id": "uuid",
 "questions": [
    {
     "question_id": "uuid",
     "question": "What is gradient descent?",
     "options": [
        "A) An optimization algorithm",
        "B) A type of neural network",
       "C) A data structure",
       "D) A programming language"
     ],
     "correct_answer": "A",
     "explanation": "Gradient descent is an optimization algorithm used to minimize t
     "difficulty": "medium"
    }
 ],
 "passing_score": 70,
 "time_limit_minutes": 30
}
```

Progress Model

```
json
{
 "user_id": "uuid",
 "roadmap_id": "uuid",
 "milestone_progress": {
   "milestone_1": {
     "status": "completed",
     "completed_resources": ["res_1", "res_2"],
     "assessment_scores": [85, 92],
     "completion_date": "2024-12-15"
   },
   "milestone_2": {
     "status": "in_progress",
     "completed_resources": ["res_3"],
     "progress_percentage": 30
   }
 },
 "overall_progress": 45,
 "estimated_completion": "2025-06-20"
}
```

API Endpoints

Core Endpoints

1. Generate Roadmap

```
http
POST /api/v1/roadmap/generate
 "current role": "Software Engineer",
 "target_role": "AI Engineer",
 "current_skills": ["Python", "JavaScript", "Git", "SQL", "React", "Node.js"],
 "experience years": 3,
 "hours per week": 15,
 "learning_style": ["video_courses", "hands_on_projects", "interactive_tutorials"],
 "budget_per_month": 50
}
Response: {
 "roadmap id": "uuid",
 "estimated duration months": 6,
 "total hours": 210,
 "difficulty rating": 7.5,
 "milestones": [...],
 "preview url": "/roadmap/uuid/preview"
}
```

2. Get Skills Suggestions

```
http

GET /api/v1/skills/suggestions?role=Software Engineer

Response: {
   "common_skills": ["Python", "JavaScript", "Git", "SQL", "Docker", "AWS"],
   "trending_skills": ["TypeScript", "Kubernetes", "GraphQL", "React"]
}
```

3. Get Role Suggestions

4. Validate Input

```
http

POST /api/v1/validate/transition
{
    "current_role": "Software Engineer",
    "target_role": "AI Engineer",
    "experience_years": 3
}

Response: {
    "is_valid": true,
    "difficulty": "challenging but achievable",
    "estimated_time": "6-9 months",
    "success_rate": "73%"
}
```

5. Save Roadmap (After Generation)

```
http

POST /api/v1/roadmap/save
{
    "roadmap_id": "uuid",
    "email": "user@example.com"
}

Response: {
    "success": true,
    "login_url": "/login?roadmap=uuid"
}
```

2. Get Milestone Resources

```
http

GET /api/v1/milestone/{milestone_id}/resources

Response: {
    "resources": [
        {
            "title": "Deep Learning Specialization",
            "url": "https://coursera.org/specializations/deep-learning",
            "duration_hours": 120,
            "cost": 49
        }
        ]
    }
}
```

3. Get Assessment

```
http

GET /api/v1/assessment/{milestone_id}
Response: {
   "questions": [...],
   "time_limit": 30,
   "passing_score": 70
}
```

4. Submit Assessment

```
http

POST /api/v1/assessment/{assessment_id}/submit
{
    "answers": {
        "q1": "A",
        "q2": "C",
        "q3": "B"
    }
}
```

5. Update Progress

```
http
POST /api/v1/progress/update
{
    "milestone_id": "uuid",
    "completed_resources": ["resource_1"],
    "assessment_score": 85
}
```

6. Get Progress Dashboard

```
http

GET /api/v1/progress/dashboard
Response: {
    "overall_progress": 45,
    "current_milestone": {...},
    "completed_milestones": 2,
    "total_milestones": 6,
    "estimated_completion": "2025-06-20"
}
```

Success Metrics

User Engagement

- Daily Active Users (DAU)
- Average session duration
- Resources accessed per user
- Assessment completion rate

Learning Outcomes

- Milestone completion rate
- Average assessment scores
- Time to complete roadmap
- Career transition success rate

Business Metrics

• User retention (30/60/90 days)

- Conversion rate (free to paid)
- Resource click-through rate
- User satisfaction (NPS)

8 Development Phases

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Phase 1: Core MVP (Weeks 1-4)
Roadmap generation algorithm
☑ Basic UI with milestone view
Resource curation system
☐ Simple progress tracking
Phase 2: Assessment System (Weeks 5-6)
Question generation for each skill
Assessment UI/UX
Score tracking and feedback
Retake functionality
Phase 3: Enhanced Progress Tracking (Weeks 7-8)
☐ Visual progress dashboard
☐ Milestone completion certificates
☐ Time tracking and estimates
Progress notifications
Phase 4: Polish & Launch (Weeks 9-10)
UI/UX refinements
Performance optimization
User onboarding flow
Beta testing and feedback

© Competitive Advantages

- 1. Al-Powered Personalization: Unlike static courses, roadmaps adapt to individual backgrounds
- 2. Curated Resources: Hand-picked, verified learning materials with direct links
- 3. Built-in Assessments: Knowledge validation at each step
- 4. Visual Progress: Clear view of journey and achievements

Time-Realistic: Based on actual availability, not idealistic timelines

Monetization Strategy (Post-MVP)

Freemium Model

- Free: 1 roadmap, basic resources, limited assessments
- Pro (\$19/month): Unlimited roadmaps, premium resources, all assessments
- Teams (\$49/user/month): Team progress, custom paths, analytics

Additional Revenue

- Affiliate commissions from course platforms
- Premium mentorship connections
- Certification partnerships
- Enterprise training packages

Security & Privacy

- Secure authentication (JWT)
- Encrypted user data
- GDPR compliance
- No storage of assessment answers
- Anonymous usage analytics

Future Enhancements

- 1. **Mobile App**: iOS/Android native apps
- 2. Al Mentor: Chatbot for learning support
- 3. Community Features: Study groups, forums
- 4. Live Sessions: Expert-led workshops
- 5. Job Matching: Connect with opportunities
- 6. Skill Verification: Blockchain certificates



Ready to transform your career?

Start your personalized learning journey with CareerGPS today.

For Developers: Check our GitHub for contribution guidelines

For Investors: See our pitch deck for growth projections

For Users: Sign up for early access at careergps.ai

CareerGPS - Your Al-powered career transformation companion