

FocusForge

Next-Generation AI-Powered Learning Platform

Project Overview

FocusForge is a revolutionary educational learning platform built with Spring Boot and powered by Spring AI, designed to transform the way students learn, track progress, and achieve their career goals.

Created By
Rohan Mahendra Uke

Hackathon Topic
AI-Powered Online Education

- Next-gen learning platforms
- AI tutors & personalized course recommenders
- Skill trackers & adaptive learning
- Intelligent progress monitoring

Core Features

1. User Authentication & Profile Management
Secure Sign Up & Login powered by Spring Security

Sample Profile JSON:

```
{
  "timestamp": "2026-02-11T13:53:19.7427089",
  "data": {
    "age": 22,
    "goal": "Crack Product Based Company",
    "skills": "Spring Boot, DSA, Microservices",
    "targetJob": "Software Developer"
  },
  "error": null
}
```

2. Daily Study Session Tracking

Sample Study Session JSON:

```
{
  "timestamp": "2026-02-11T13:55:19.8115358",
  "data": {
    "date": "2026-02-11",
    "subject": "Learn bean Life Cycle Part 2",
    "platform": "Anuj Bhaiya from CodingShuttle",
    "duration": 150,
    "notes": "Implement Beans And Understand Bean Life Cycle"
  },
  "error": null
}
```

}

3. Weekly Progress Analytics

Sample Weekly Report JSON:

```
{
  "timeStamp": "2026-02-11T14:02:17.0840154",
  "data": {
    "weekStart": "2026-02-09",
    "totalStudyTime": 270,
    "consistency": 14.285714285714285,
    "commits": [
      {
        "date": "2026-02-11",
        "message": "Studied Learn bean Life Cycle Part 2 for 150 mins on Anuj Bhaiya from CodingShuttle"
      },
      {
        "date": "2026-02-11",
        "message": "Studied Learn bean Life Cycle for 120 mins on Anuj Bhaiya from CodingShuttle"
      }
    ]
  },
  "error": null
}
```

4. AI-Powered RAG Question-Answer Bot

- Context-aware responses based on user learning journey
- AI-driven learning path suggestions
- Instant doubt resolution
- Goal-oriented guidance

5. Global Leaderboard & Gamification

Ranking based on:

- Max streaks
- Max commits
- Higher screen time

6. Collaborative Study Rooms

Workflow:

1. Create Room
2. Send Invites
3. Accept/Reject Invitations
4. Start Room
5. Real-Time Chat
6. Ask Doubts
7. Collaborative Learning
8. End Room

Automatic session recording includes:

- Topic Name
- Participants
- Messages
- Doubts
- Duration
- Start & End Time
- Date

Technical Stack

- Spring Boot
- Spring Security
- Spring AI
- Spring Data JPA
- WebSocket
- MySQL
- RAG (Retrieval-Augmented Generation)

Gamification Achievements

- Streak Master
- Study Warrior
- Time Champion
- Collaboration King
- Goal Achiever

User Journey Flow

Sign Up -> Login -> Create Profile -> Log Sessions -> View Analytics -> Interact with AI -> Check Leaderboard -> Join Study Rooms -> Achieve Goals

Future Enhancements

- Mobile App
- Video Integration
- Smart Notes
- Calendar Integration
- Email Notifications
- Multi-language Support
- Certification System

FocusForge - Learn. Track. Collaborate. Achieve.