

Financial Literacy Platform - Comprehensive Documentation

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1. Executive Summary

The Financial Literacy Platform is an innovative, gamified educational system designed to teach financial concepts to school students through interactive, level-based learning. The platform serves three primary user types - Students, Teachers, and Parents - each with tailored interfaces and functionalities.

Key Features

- Gamified learning experience with badges, streaks, and rewards
 - Progressive level-based curriculum with unlock mechanisms
 - Multi-user support (Students, Teachers, Parents)
 - Real-time progress tracking
 - Teacher-managed authentication system
 - Responsive design for all devices
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2. About the Creator

Aditya Tripathi

Student at SP Jain School of Global Management

I am a passionate technologist and education enthusiast currently pursuing my studies at SP Jain School of Global Management.

3. Project Overview

3.1 Vision Statement

To create an engaging, accessible platform that transforms financial education for school students through gamification, making complex financial concepts simple, fun, and memorable.

3.2 Core Learning Modules

3.3 User Roles Overview

4. Technical Architecture

4.1 System Architecture Overview

4.2 Technology Stack Details

4.3 Authentication Flow

5. User Journeys

5.1 Complete Student Journey

5.2 Teacher Workflow

5.3 Parent Engagement Flow

6. Database Schema

6.1 Complete Entity Relationship Diagram

6.2 Core Tables Structure

6.3 Gamification Tables

7. UI/UX Design

7.1 Design System Overview

7.2 Student Interface Pages

7.2.1 Student Login Page **Design Elements:** - Simple username/password fields - Colorful, animated background - School branding - “Ask Teacher for Help” link - No registration option (teacher-managed)

7.2.2 Student Dashboard

7.2.3 Learning Page Content Types Supported: - YouTube video embeds - Document viewers - PPT presentations - Personal/instructor videos - Interactive activities

7.2.4 Quiz Page

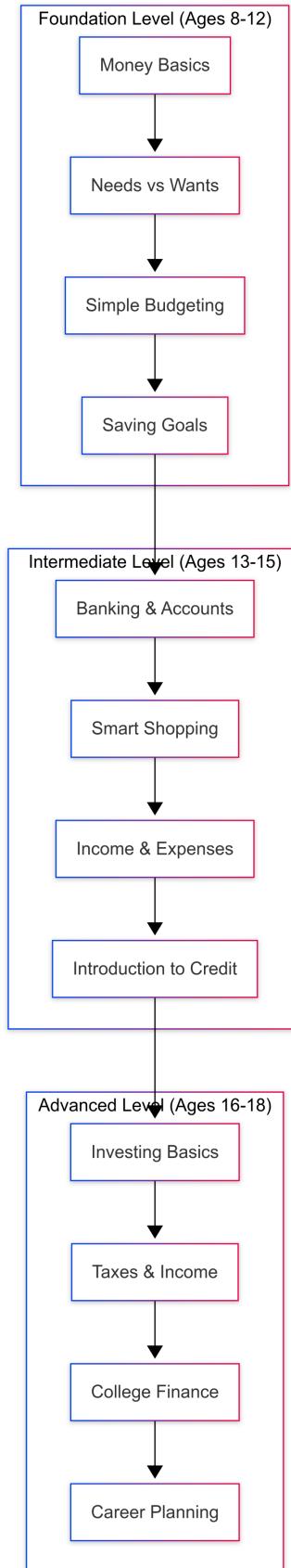


Figure 1: Core Learning Modules
3

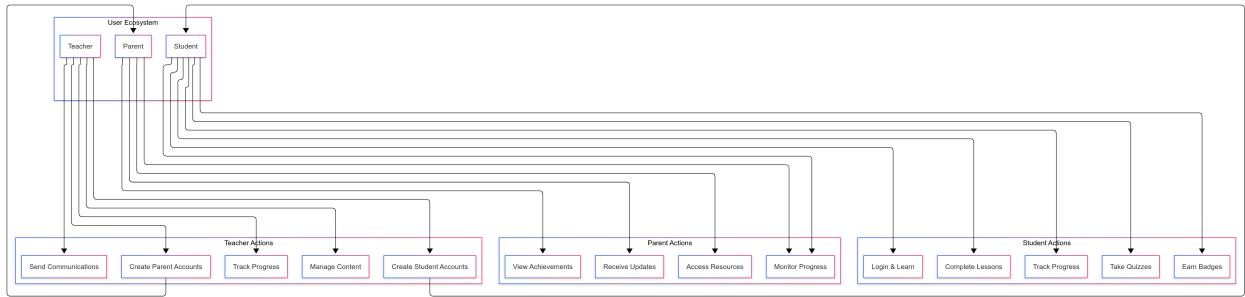


Figure 2: User Roles Overview

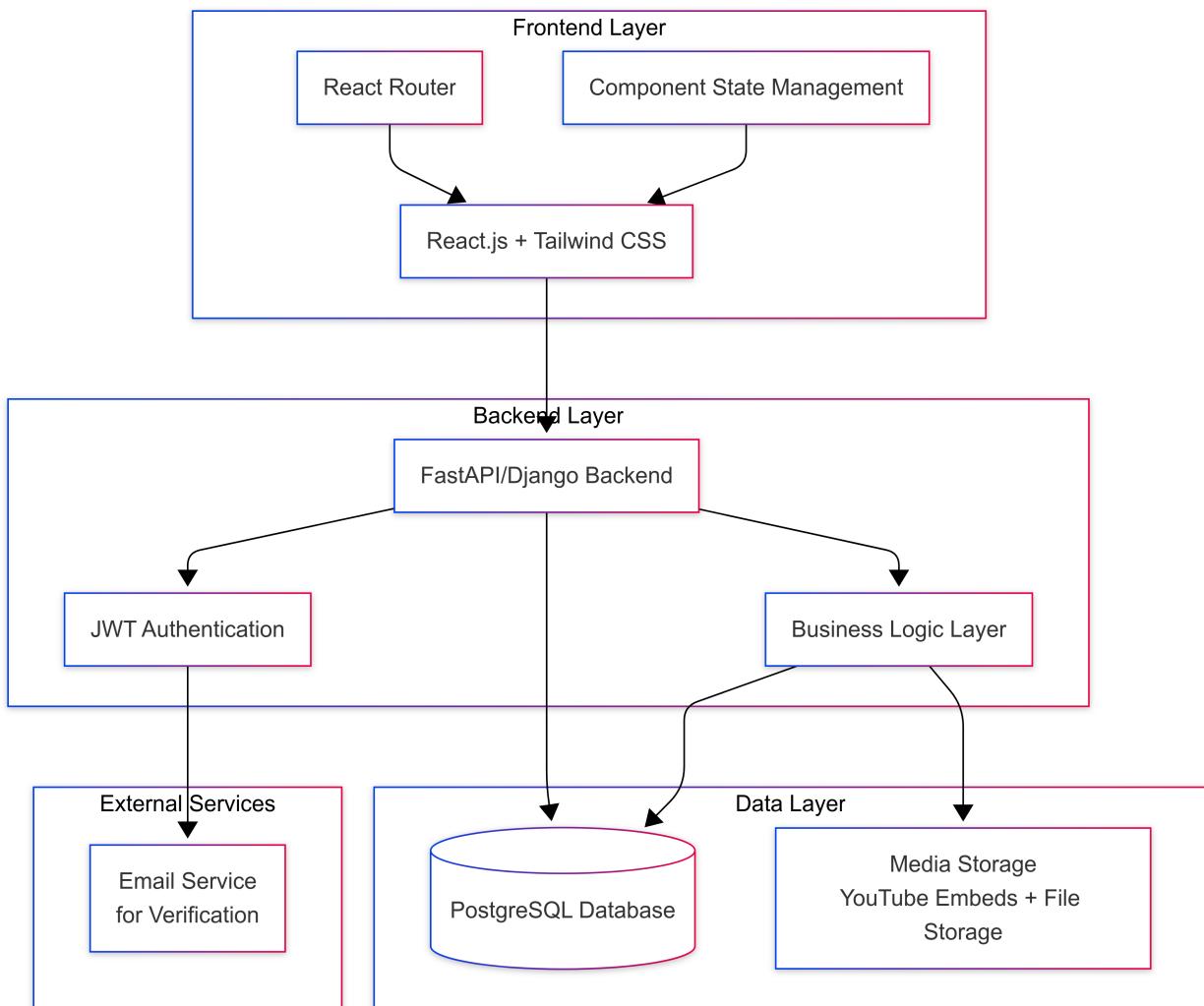


Figure 3: System Architecture Overview

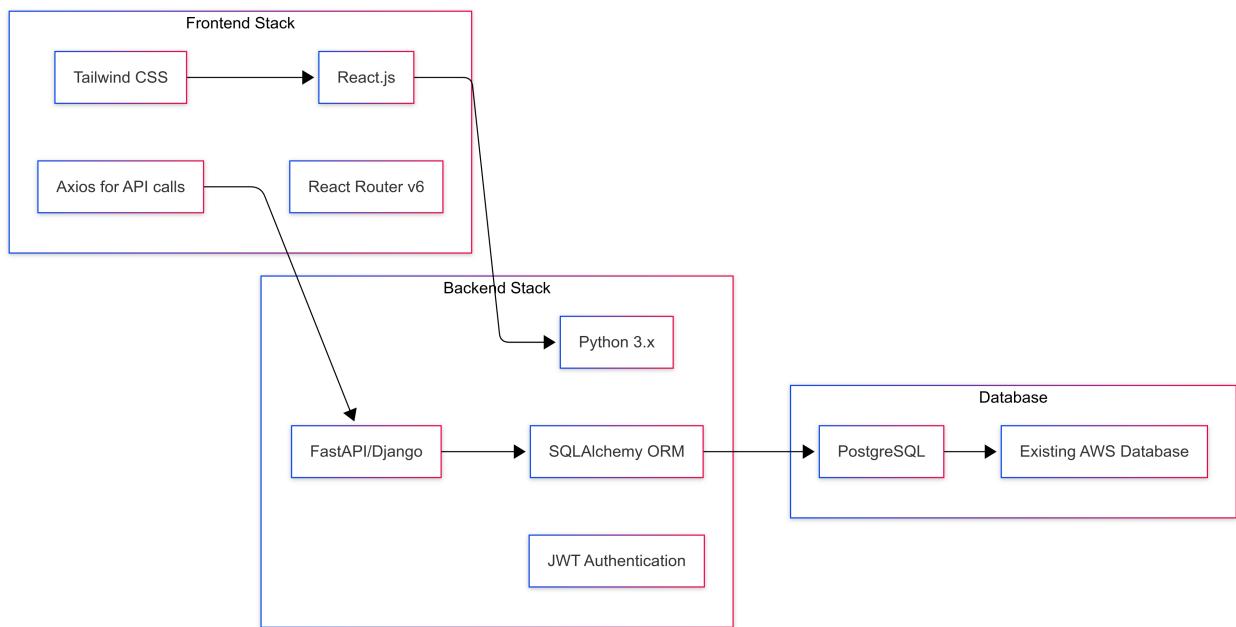


Figure 4: Technology Stack Details

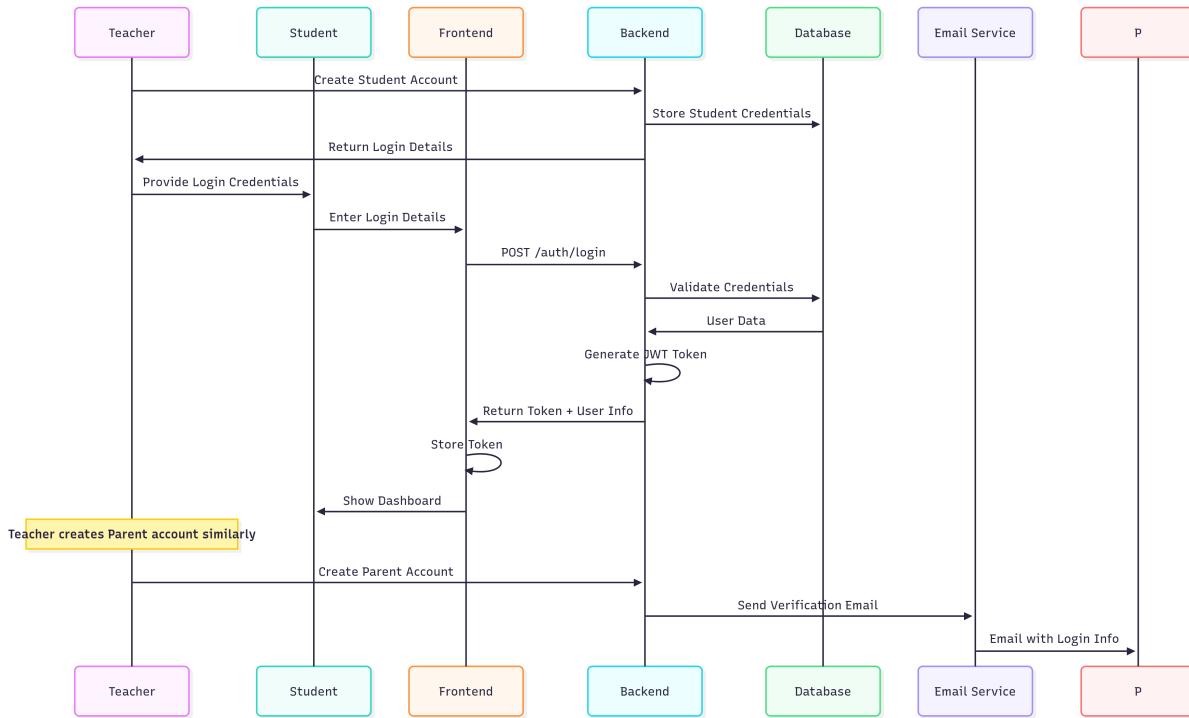


Figure 5: Authentication Flow

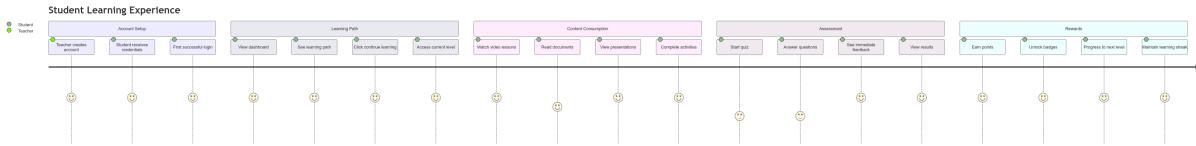


Figure 6: Complete Student Journey

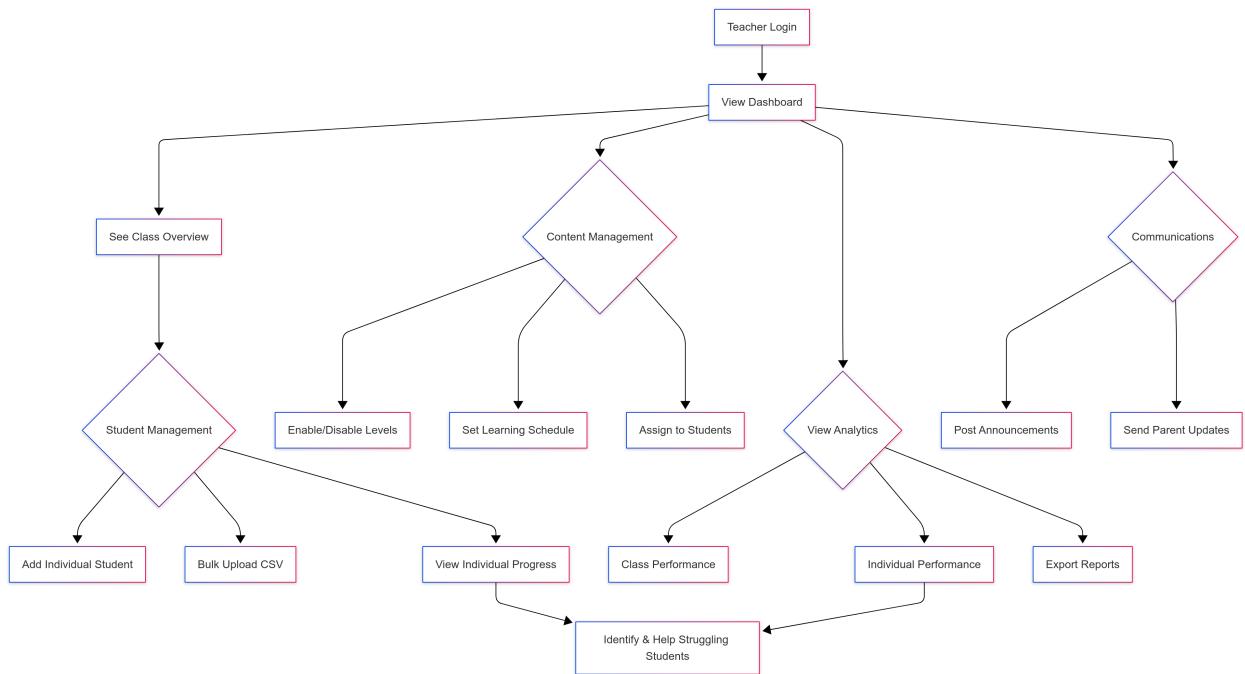


Figure 7: Teacher Workflow

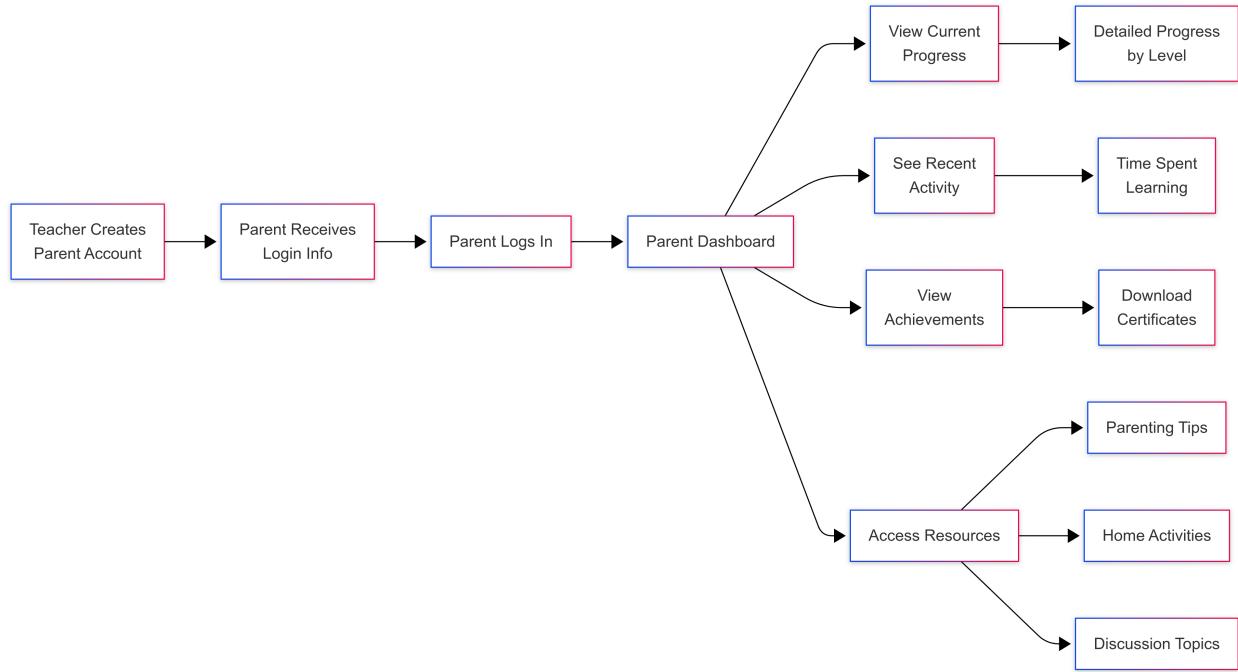


Figure 8: Parent Engagement Flow

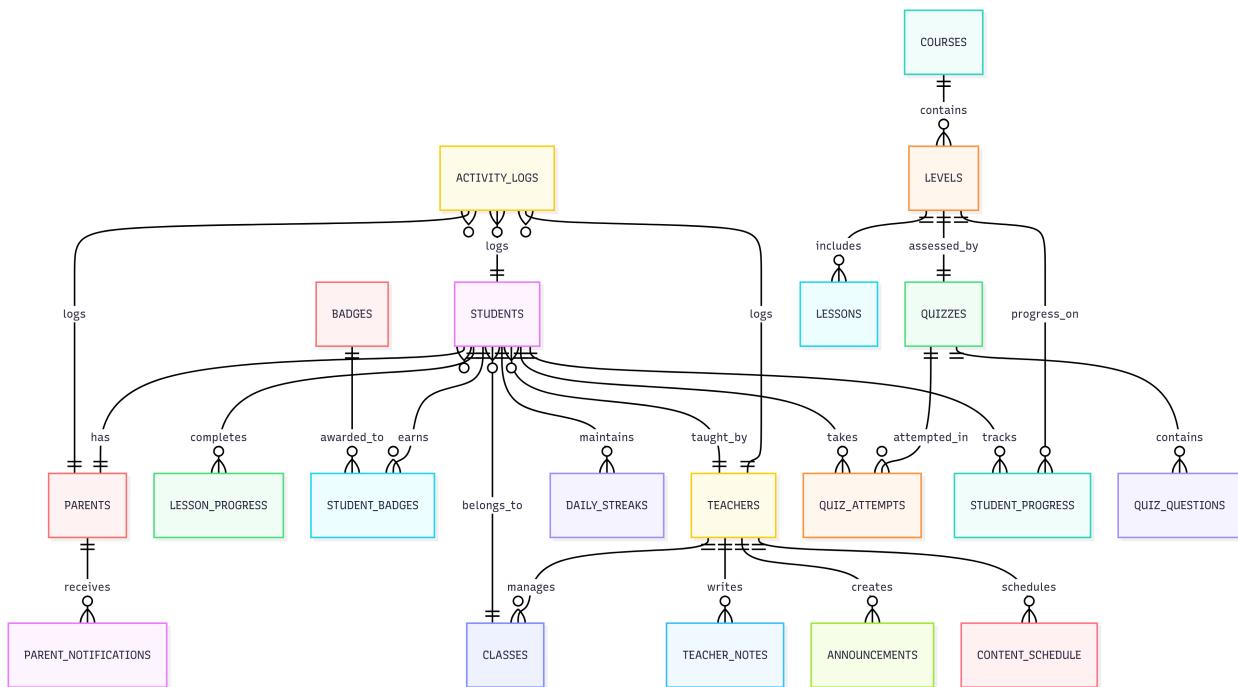


Figure 9: Complete Entity Relationship Diagram

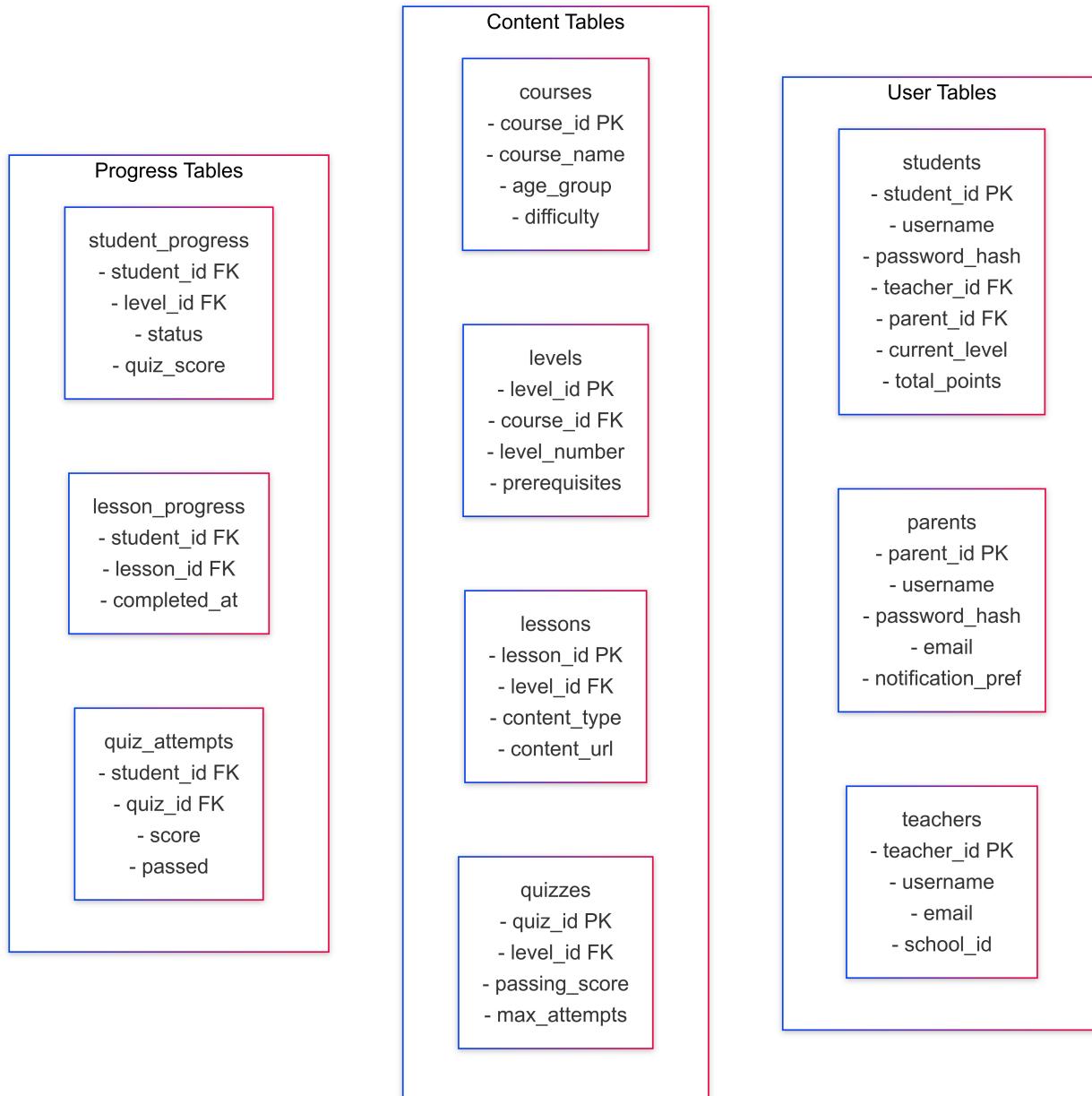


Figure 10: Core Tables Structure

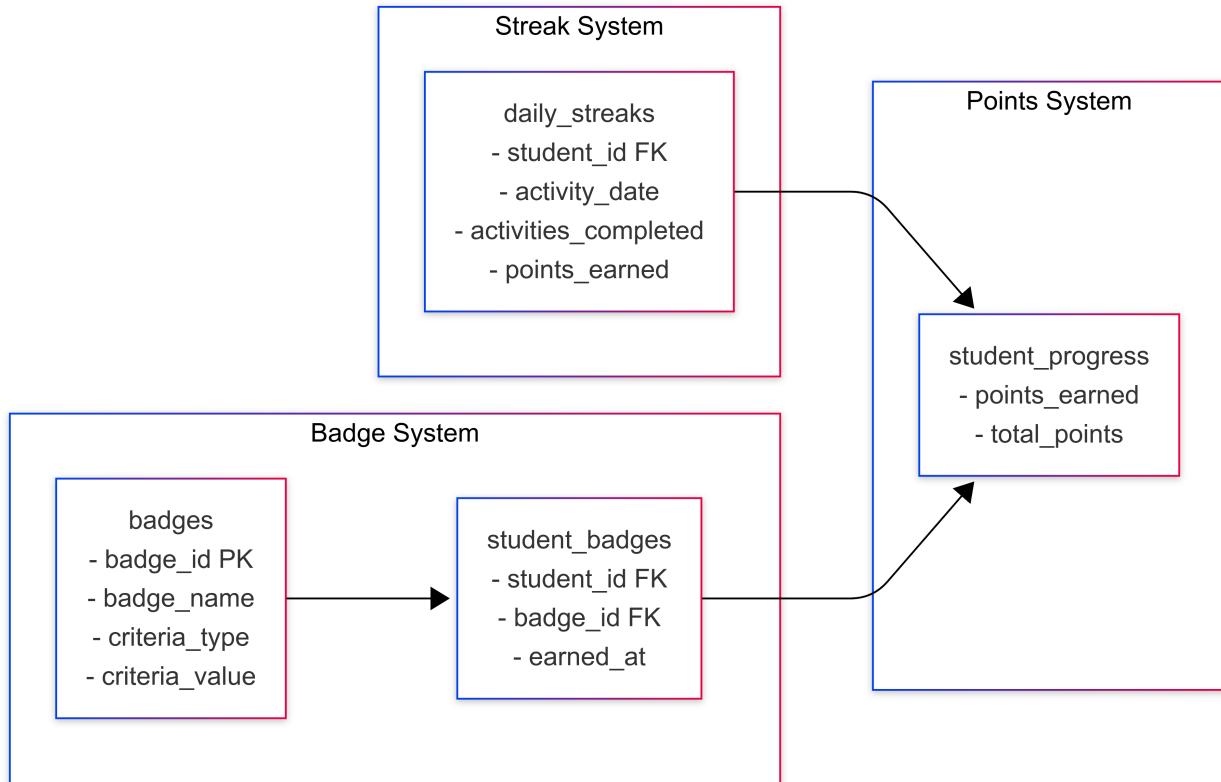


Figure 11: Gamification Tables

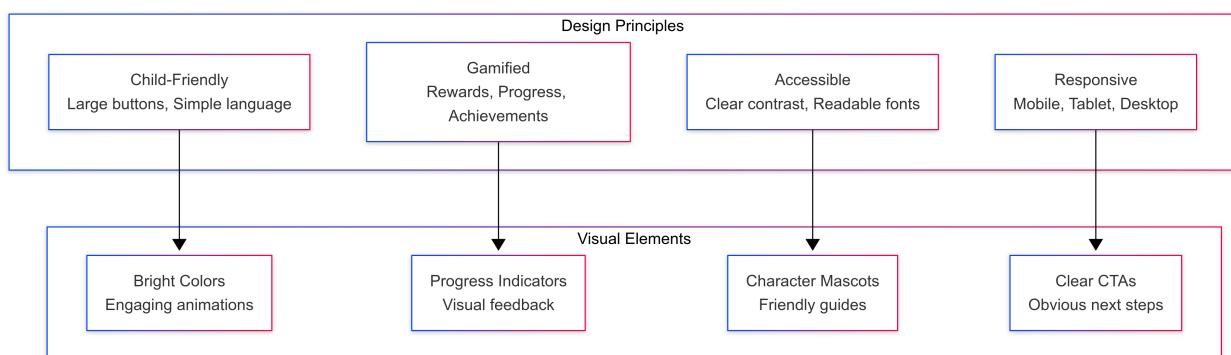


Figure 12: Design System Overview

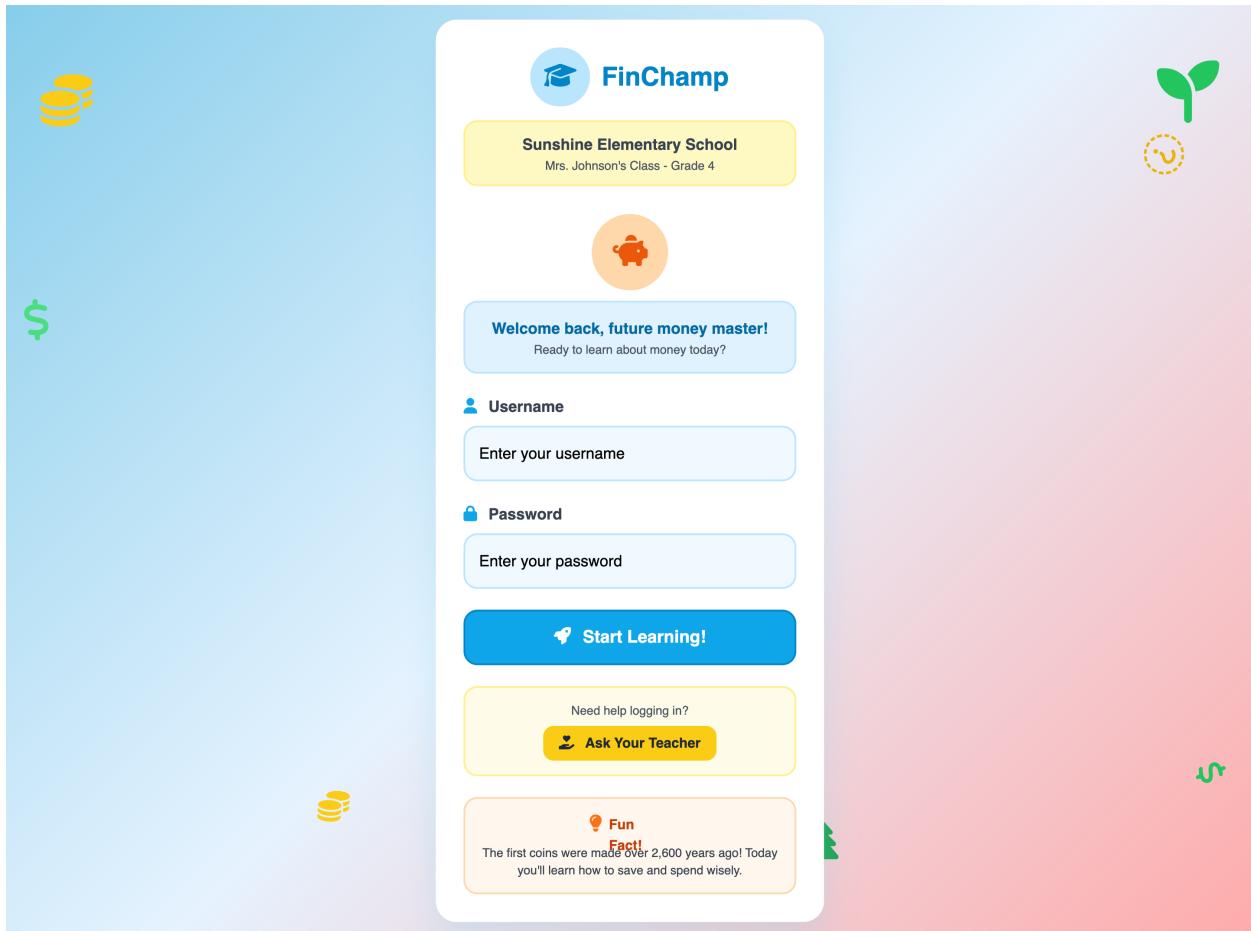


Figure 13: Student Login Page

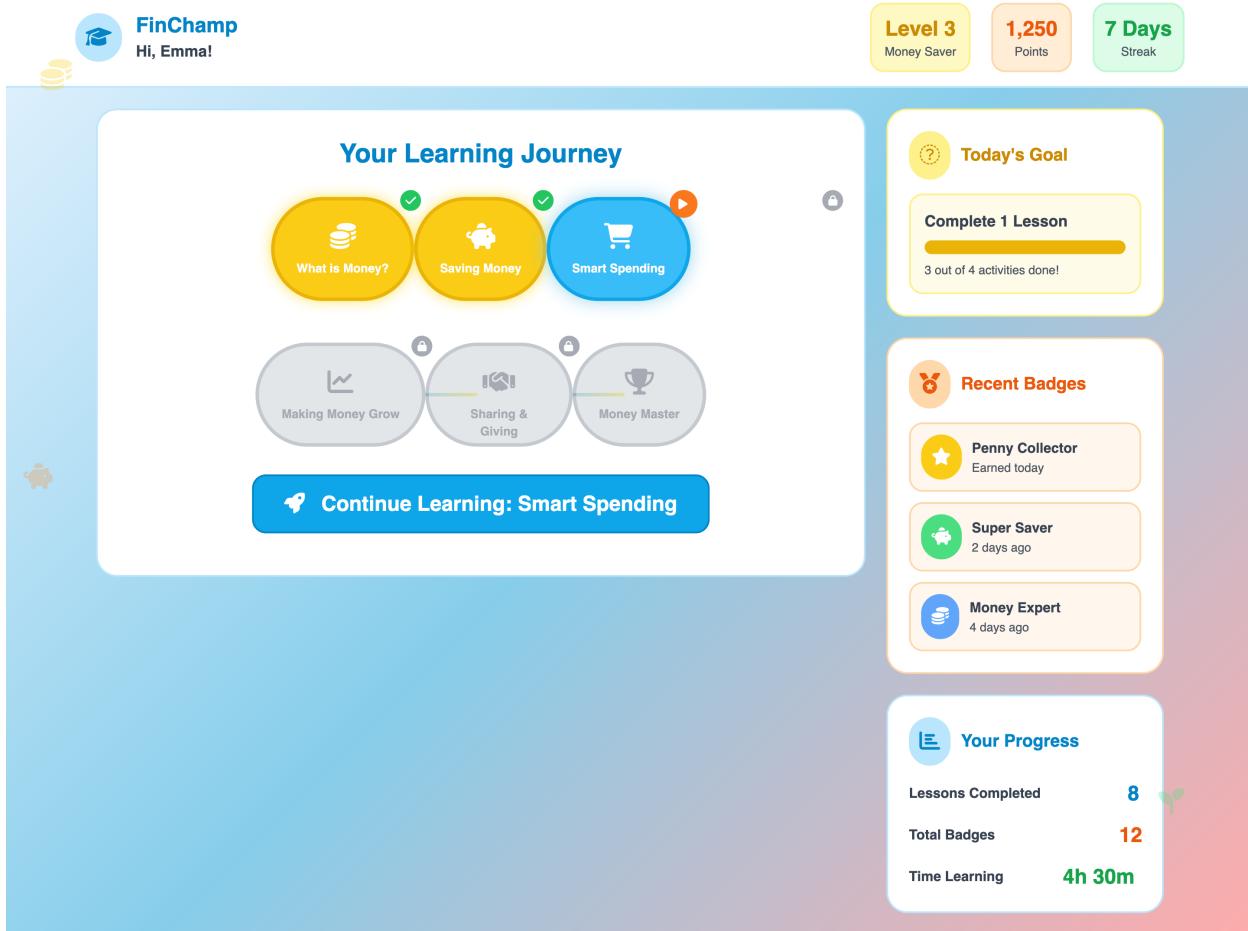


Figure 14: Student Dashboard UI

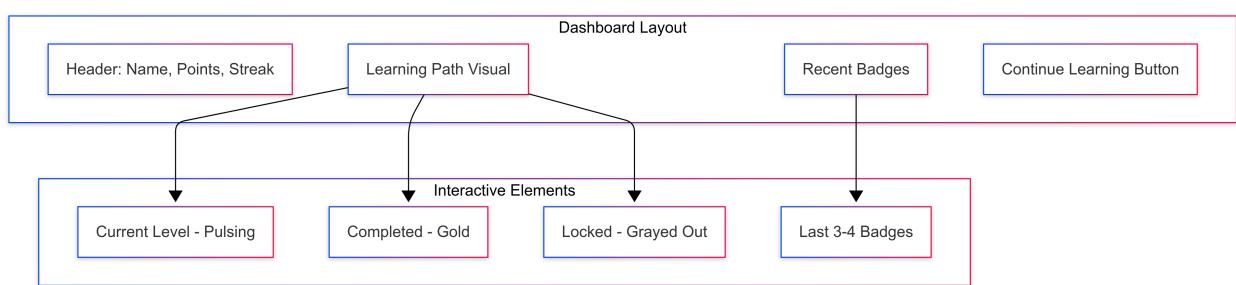


Figure 15: Student Dashboard

FinChamp
Smart Spending Lesson

Emma

Lesson Progress

3 of 5 Complete

Video Reading Story Activity Quiz

Maya's Shopping Adventure

Learn about smart spending through Maya's story

Meet Maya
She has \$20 to spend at the store

Maya walked into the colorful toy store with her \$20 allowance money. Her eyes sparkled as she saw all the amazing toys around her!

First, she spotted a shiny new video game for \$25. "Oh wow!" she thought, but then remembered her mom's advice about **budgeting**.

Maya realized the video game cost more than her \$20, so she kept looking. She found three things she really wanted:

 Puzzle Game \$8	 Art Set \$12	 Story Book \$5
-------------------------------	----------------------------	------------------------------

Maya did some quick math in her head. If she bought all three items, it would cost $\$8 + \$12 + \$5 = \25 . That was \$5 more than she had!

She remembered learning about **needs vs wants**. Maya thought carefully about which items would make her happiest and which ones she could save up for later.

After thinking it through, Maya decided to buy the puzzle game and the story book for \$13 total. This left her with \$7 to save for something special next time!

Maya's Smart Choice!
She stayed within her budget and still got two things she wanted. Plus, she saved money for the future!

[← Previous](#) [Continue to Activity →](#)

Level 3 > Smart Spending > **Maya's Story**

Text Size:

Figure 16: Learning Page

The screenshot shows a mobile application interface for a quiz. At the top, there is a header with the title "FinChamp" and a subtitle "Smart Spending Quiz". To the right of the title are two circular icons: one orange containing the name "Emma" and another yellow containing "850 pts". Below the header, a progress bar indicates "Question 3 of 5" and shows a blue progress segment followed by a grey segment. To the right of the progress bar is a green button labeled "2 Correct!". The main content area is titled "Quiz Challenge!" with a question mark icon above it. Below the title, the text "Choose the best answer" is displayed. A question is presented in a blue box: "Maya has \$15 and wants to buy a toy that costs \$18. What should she do?". Four options are listed below, each in a colored box: A) Ask her parents for more money right away (orange), B) Save more money until she has enough to buy it (green), C) Buy the toy anyway and worry about the money later (purple), and D) Look for a similar toy that costs \$15 or less (pink). At the bottom of the screen, a navigation bar shows the path: "Level 3 > Smart Spending > Quiz Challenge".

Figure 17: Quiz Page

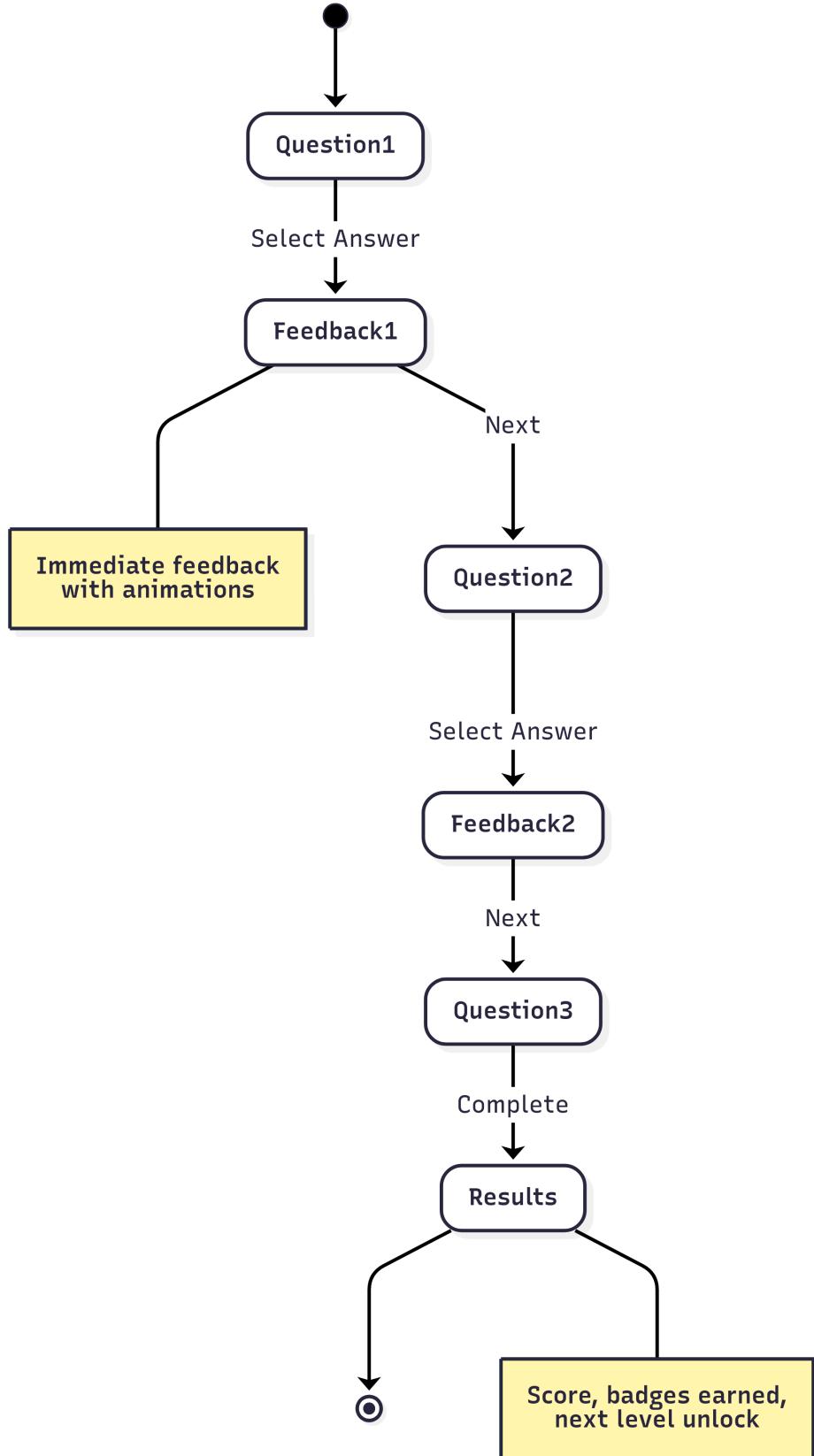


Figure 18: Quiz Page
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FinChamp
Teacher Dashboard

Notifications Ms. Johnson
Grade 3 Teacher

Total Students 24 In your class

Average Progress 78% Class performance

Active Today 18 Students online

Pending Actions 6 Need attention

Quick Actions

- Add Students
- Assign Content
- View Reports
- Send Announcement

Today's Schedule

- Morning Circle 9:00 AM - 9:30 AM
- Financial Literacy 10:00 AM - 11:00 AM
- Interactive Games 2:00 PM - 3:00 PM

Real-Time Activity Feed

- Alex completed "Saving Money" lesson 2 minutes ago
- Emma is currently online 5 minutes ago
- Marcus needs help with budgeting quiz 15 minutes ago
- Sofia earned 50 coins! 30 minutes ago

Upcoming Deadlines

- Spending Quiz Due: Tomorrow
- Savings Challenge Due: Friday

Students Needing Attention

- Jake Failed last quiz
- Lily Inactive 3 days
- Ryan Struggling with concepts

Figure 19: Teacher Dashboard

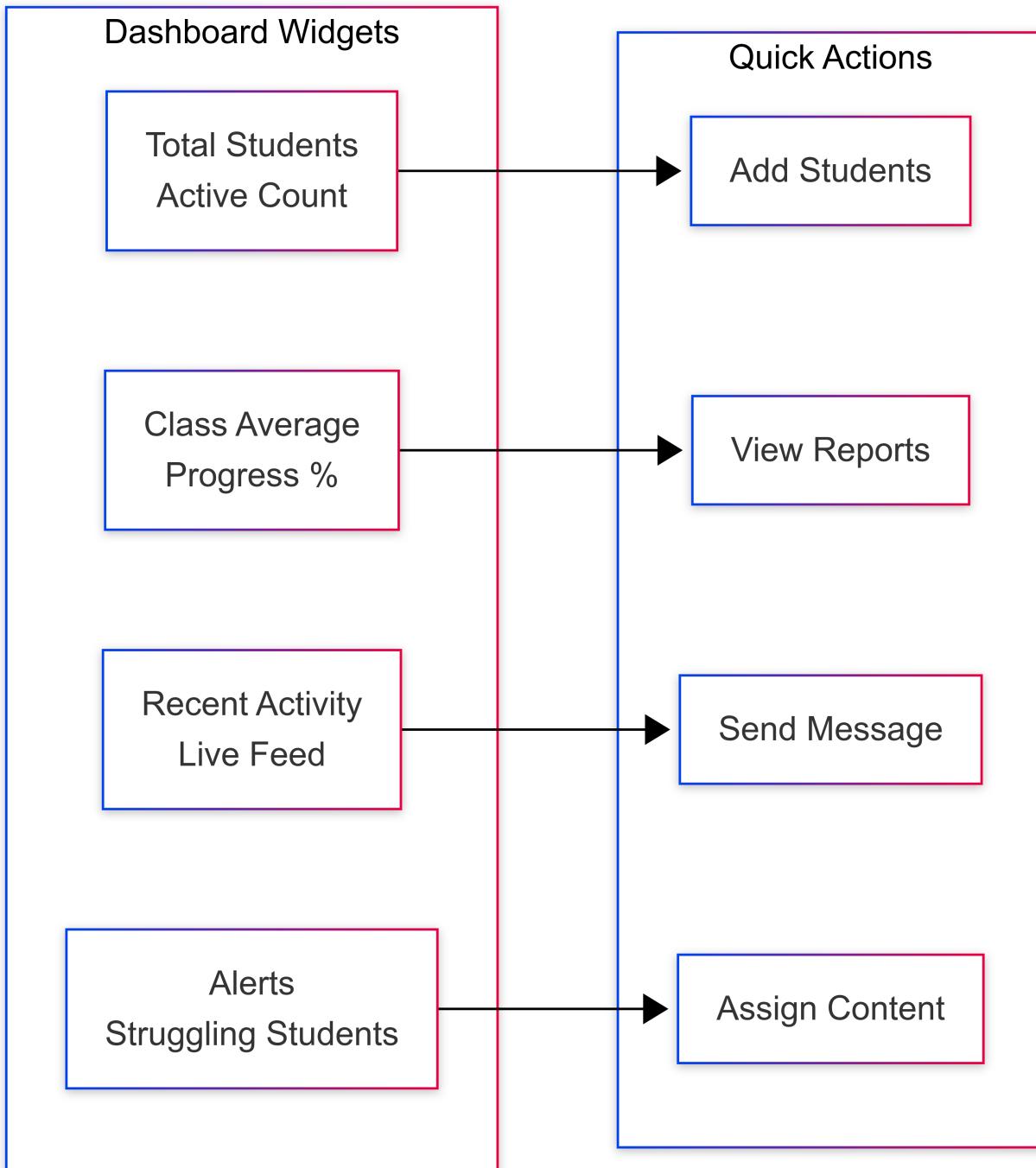


Figure 20: Teacher Dashboard

7.3 Teacher Interface Pages

7.3.1 Teacher Dashboard

The screenshot shows the FinChamp Class Management dashboard. At the top, there is a header with the FinChamp logo and the text "Class Management". On the right side of the header, there is a user profile for "Ms. Johnson" described as "Grade 3 Teacher". Below the header, the main title is "Class Management" with the subtitle "Manage your students, track progress, and take bulk actions". There are several filter and action buttons: "All Students", "All Levels", "Activity: All", "Bulk Upload", "Export", and "Add Student". The main content area is a table listing five students:

<input type="checkbox"/>	Student	Username	Level	Progress	Last Active	Quiz Average	Status	Actions
<input type="checkbox"/>	Alex Johnson ID: AJ001	alex_j_001	Level 5	<div style="width: 85%;">85%</div>	2 hours ago	92%	On Track	⋮
<input type="checkbox"/>	Emma ID: ED002	emma_d_002	Level 3	<div style="width: 65%;">65%</div>	Online now	78%	Attention	⋮
<input type="checkbox"/>	Marcus Wilson ID: MW003	marcus_w_003	Level 2	<div style="width: 35%;">35%</div>	3 days ago	45%	Struggling	⋮
<input type="checkbox"/>	Sofia Martinez ID: SM004	sofia_m_004	Level 7	<div style="width: 95%;">95%</div>	1 hour ago	96%	Excellent	⋮
<input type="checkbox"/>	Jake Thompson ID: JT005	jake_t_005	Level 4	<div style="width: 72%;">72%</div>	5 hours ago			

Figure 21: Class Management

7.3.2 Class Management Features: - Sortable student table - Progress indicators - Bulk actions toolbar - Individual student details - Password reset options

7.4 Parent Interface Pages

7.4.1 Parent Dashboard

8. API Structure

8.1 API Endpoint Organization

8.2 Data Flow Example

9. Gamification System

9.1 Gamification Elements

9.2 Streak Calculation Logic

9.3 Badge Award Flow

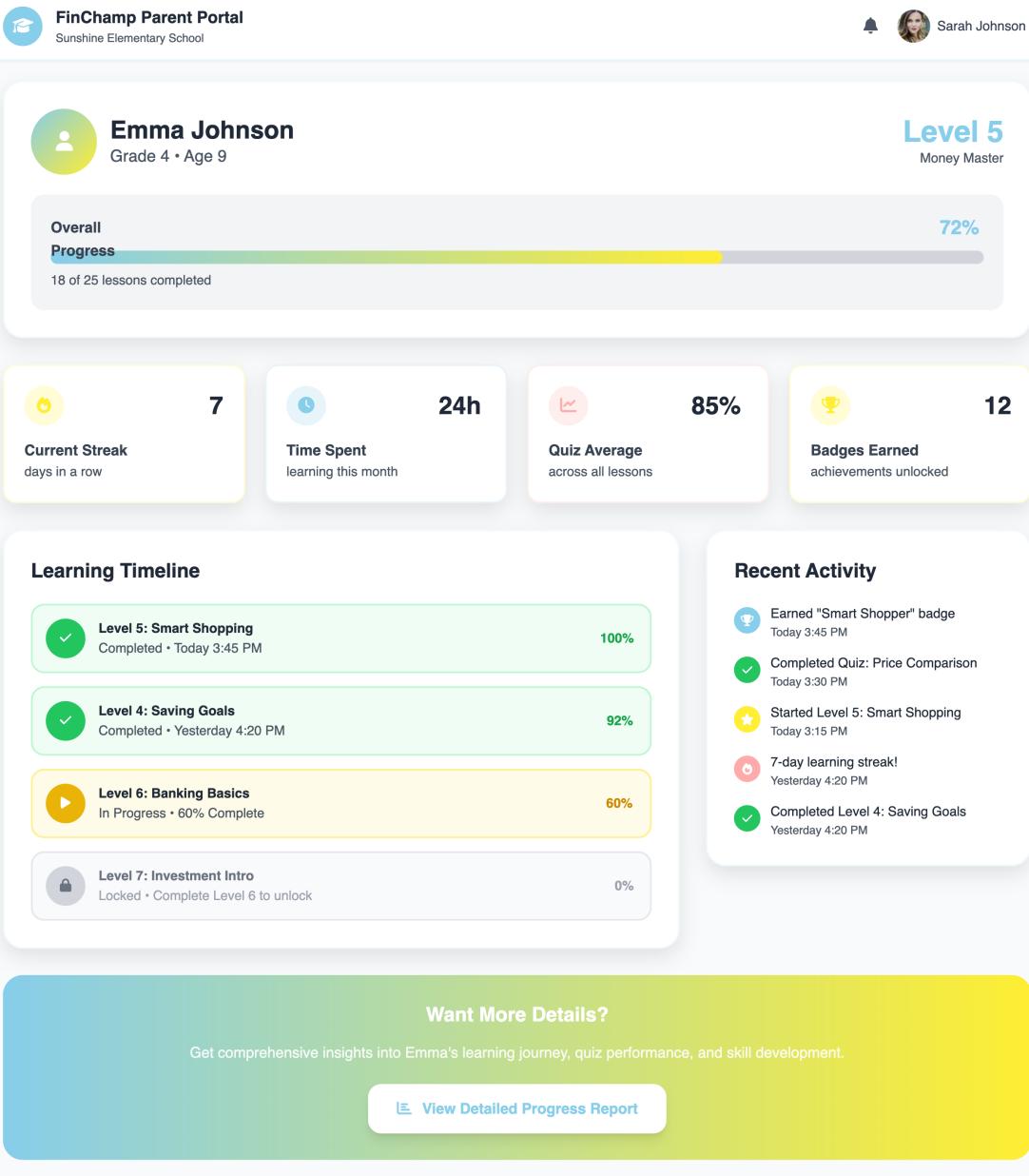


Figure 22: Parent Dashboard

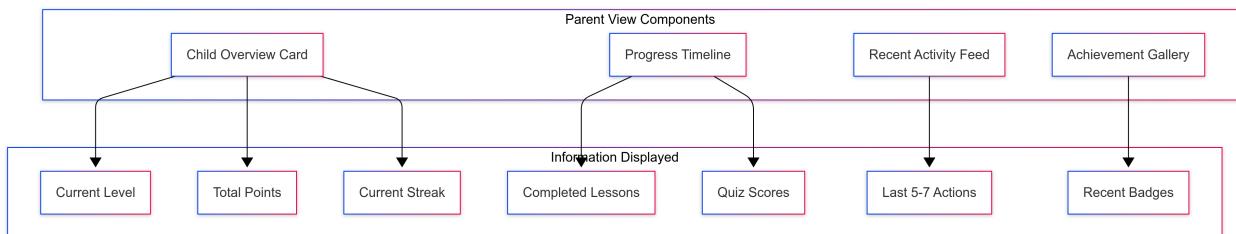


Figure 23: Parent Dashboard

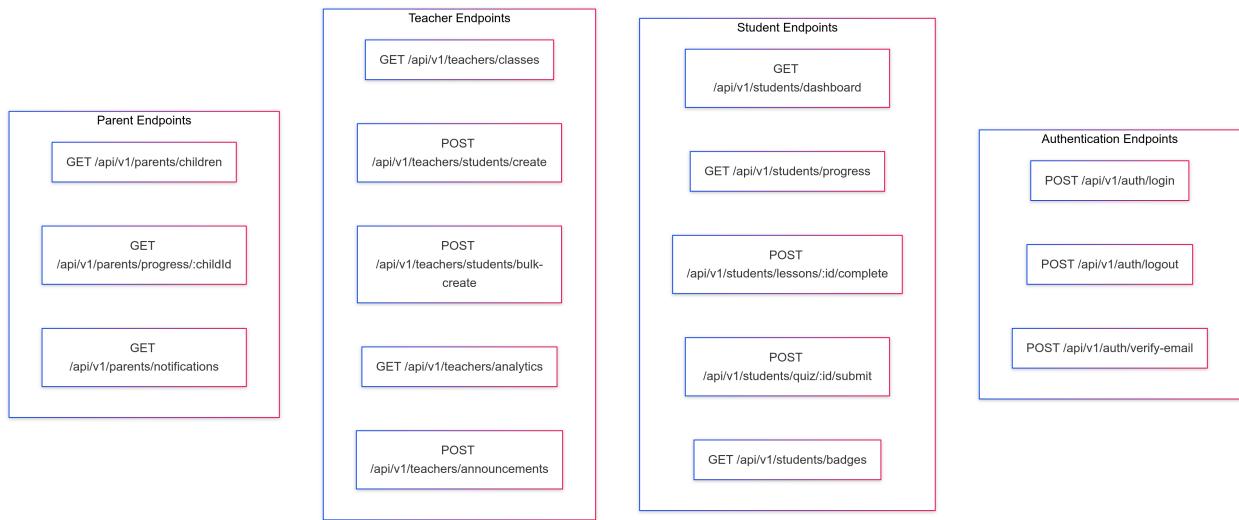


Figure 24: API Endpoint Organization

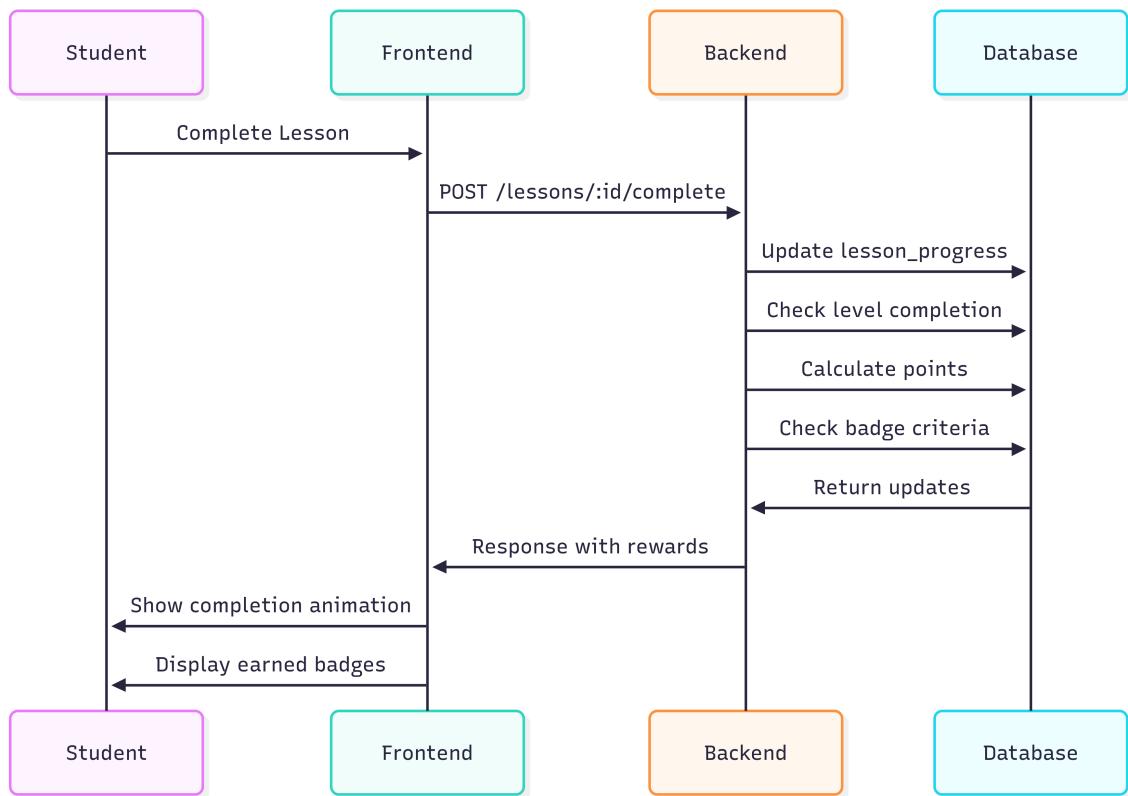


Figure 25: Data Flow Example

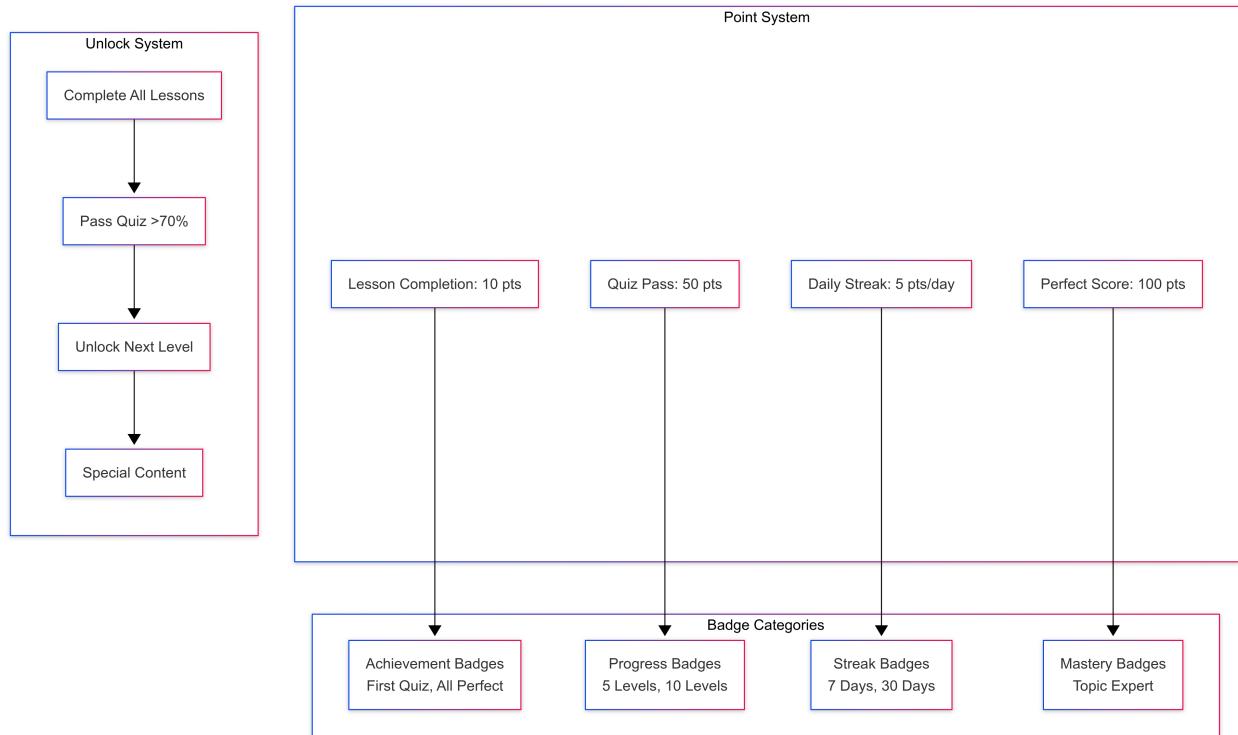


Figure 26: Gamification Elements

10. File Structure

10.1 Complete Project Structure

10.2 Frontend Component Organization

```

frontend/src/
  components/
    common/
      Header.jsx
      Button.jsx
      Card.jsx
      Modal.jsx
      ProgressBar.jsx
    student/
      Dashboard.jsx
      LearningPath.jsx
      LevelCard.jsx
      BadgeDisplay.jsx
    teacher/
      ClassOverview.jsx
      StudentTable.jsx
      AnalyticsChart.jsx
  parent/
    ChildProgress.jsx
  
```

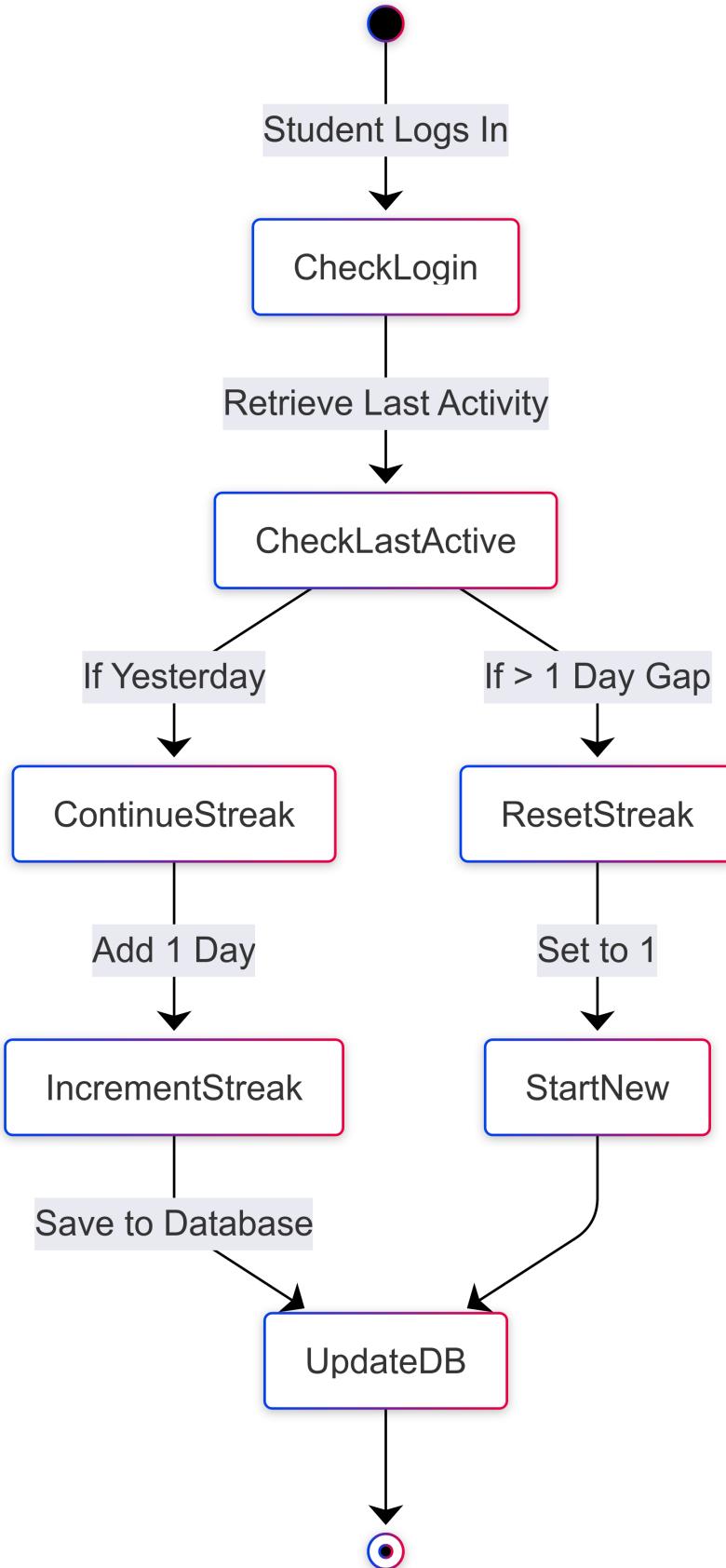


Figure 27: Streak Calculation Logic
21

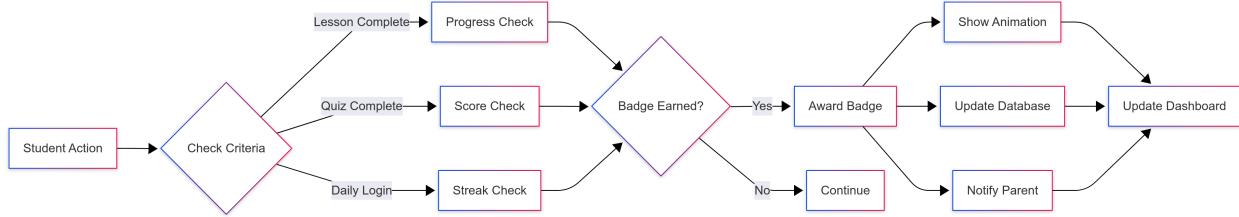


Figure 28: Badge Award Flow

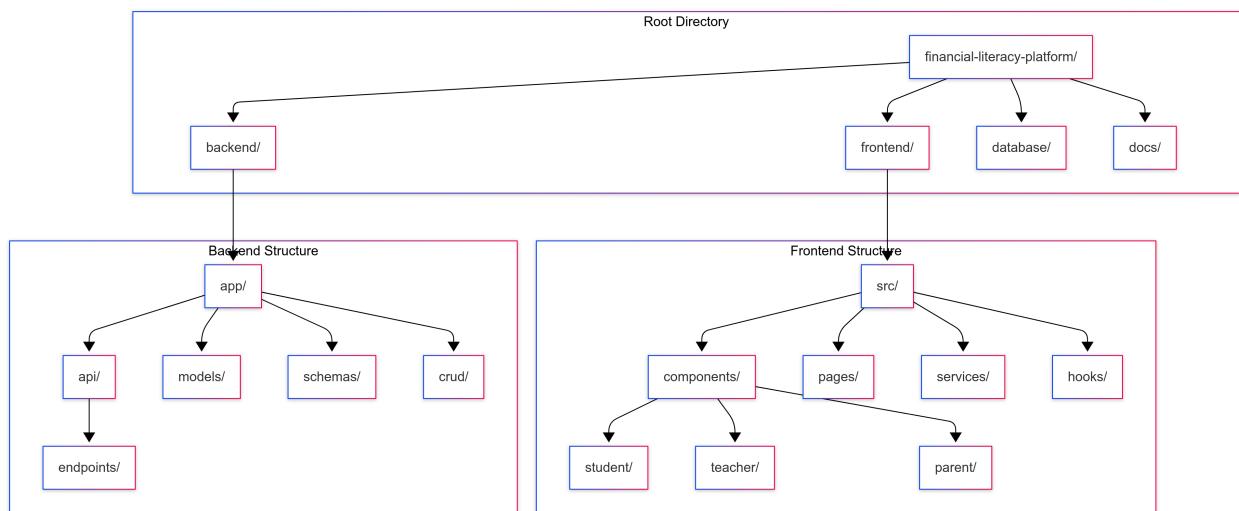


Figure 29: Complete Project Structure

ActivityFeed.jsx

10.3 Backend API Structure

```
backend/app/
  api/v1/
    endpoints/
      auth.py
      students.py
      teachers.py
      parents.py
      courses.py
      gamification.py
  models/
    user.py
    course.py
    progress.py
    gamification.py
  services/
    auth_service.py
    email_service.py
    gamification_service.py
core/
  config.py
  security.py
```

11. Implementation Roadmap

11.1 Development Phases

11.2 MVP Features (Phase 1)

11.3 Success Metrics

Appendices

A. Content Types Supported

1. Video Content

- YouTube embeds
- Uploaded instructor videos
- Maximum 10 minutes per video

2. Document Content

- PDF documents
- Interactive worksheets
- Infographics

3. Presentation Content

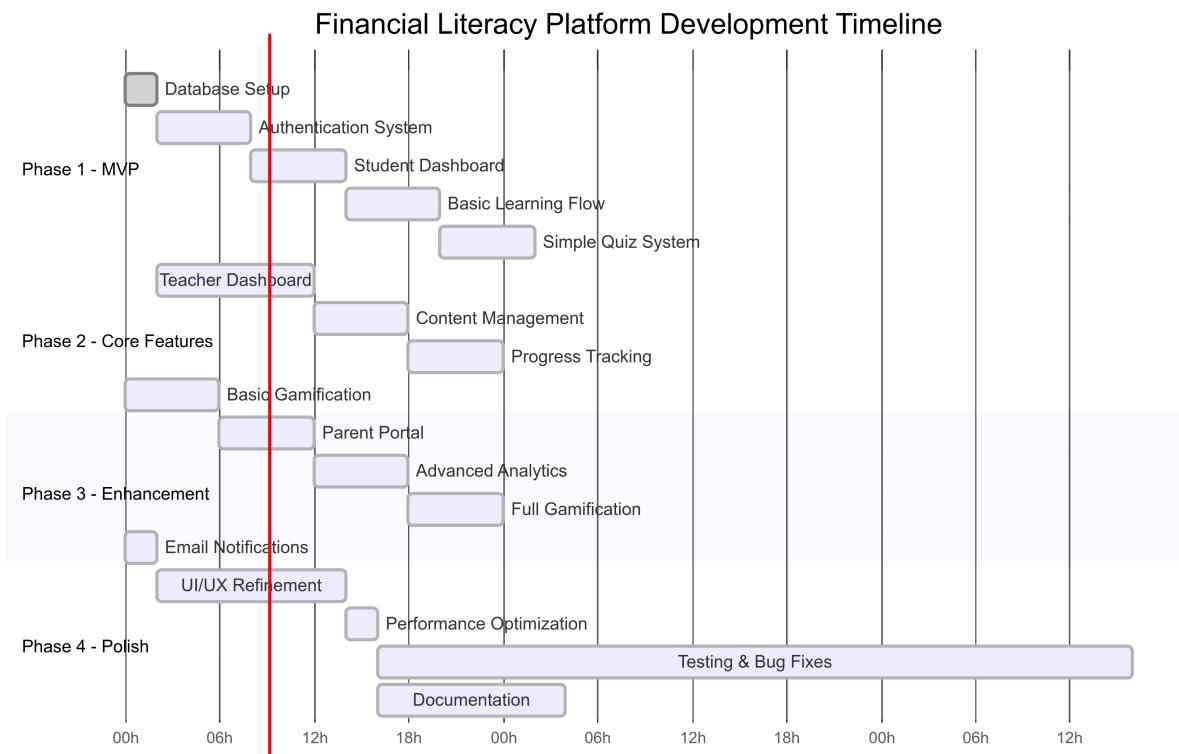


Figure 30: Development Phases

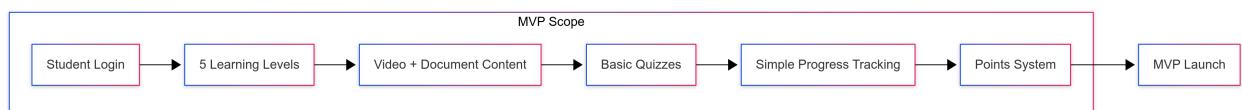


Figure 31: MVP Features

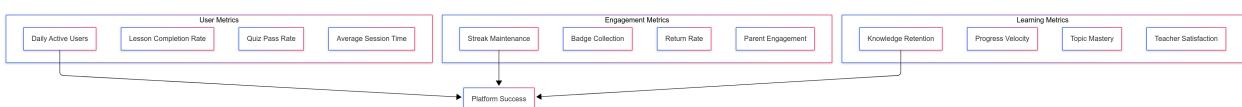


Figure 32: Success Metrics

- PowerPoint presentations
- Google Slides embeds
- Interactive slideshows

B. Quiz Question Types

- Multiple choice (4 options)
- True/False
- Fill in the blanks
- Matching pairs
- Simple calculations

C. Badge Criteria Examples

- **First Steps:** Complete first lesson
 - **Quiz Master:** Score 100% on any quiz
 - **Week Warrior:** 7-day login streak
 - **Level Up:** Complete any level
 - **Speed Learner:** Complete level in one session
 - **Perfect Month:** 30-day streak
-

This documentation represents the complete technical specification for the Financial Literacy Platform based on all discussed requirements and features.

Version: 1.0

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