PROJECT: EXPENSIFY

IT314 – SOFTWARE ENGINEERING

GROUP 26

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IT-314 PROJECT

Sequence Diagrams

SUBMITTED BY

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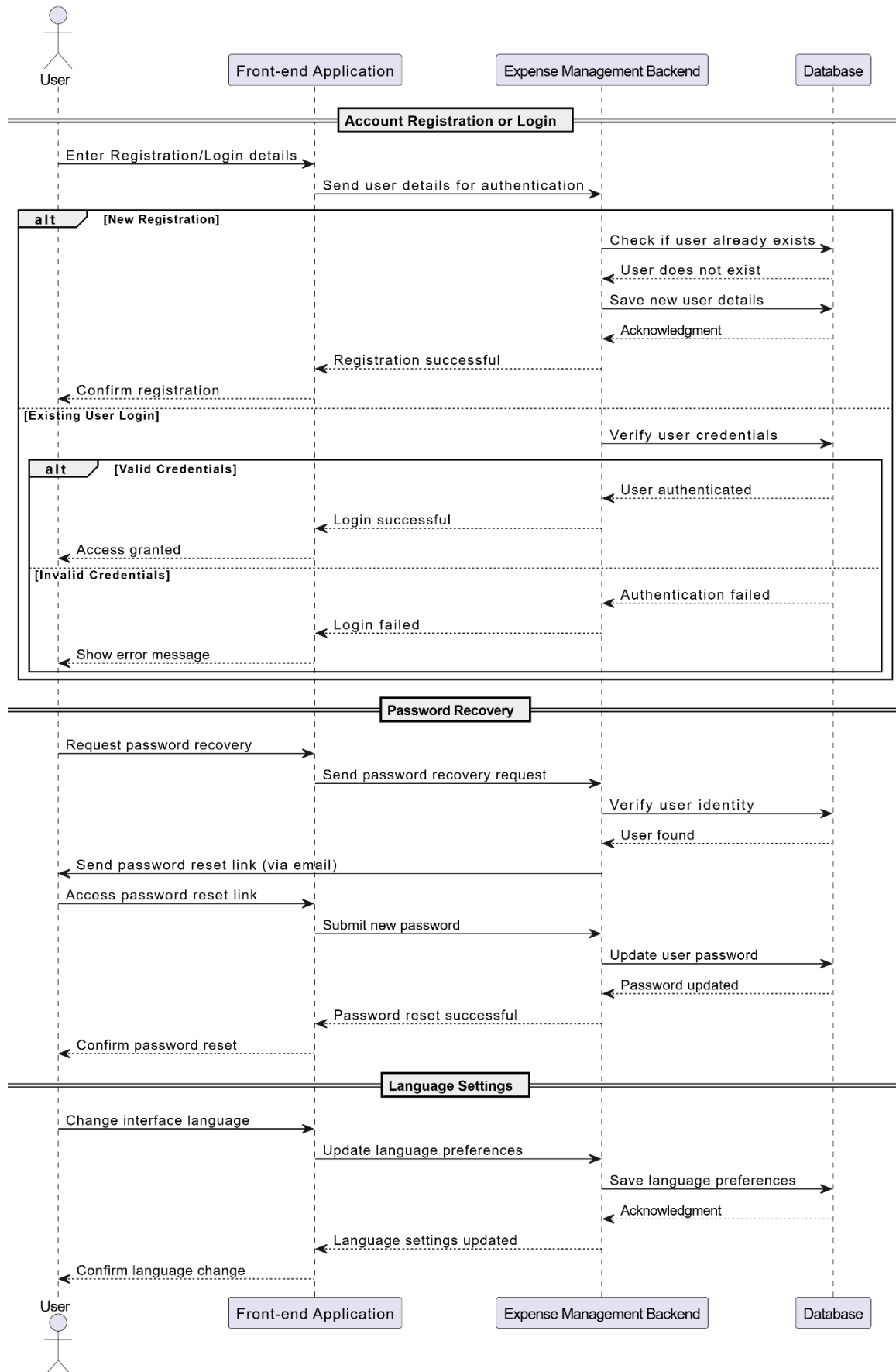Sprint 1: User Account Management and Authentication

Objective: This feature aims to establish core user management functionalities, including account registration, login, password recovery, and language settings.

Sprint Details: Develop core user management features such as account registration, login, password recovery, and support for language settings. This sprint focuses on creating a robust user authentication system, ensuring that all users can access their accounts securely, and allowing them to change the interface language.

• Account Registration or Login: Users can create or log into their accounts.

• Password Recovery: Users can recover their passwords securely.

• Language Settings: Users can change the interface language.

Duration: 2 weeks

User Account Management and Authentication - Sprint 1

User | **Front-end Application** | **Expense Management Backend** | **Database**

Account Registration or Login

User → Front-end Application: Enter Registration/Login details

Front-end Application → Expense Management Backend: Send user details for authentication

alt [New Registration]

Expense Management Backend → Database: Check if user already exists

Database --> Expense Management Backend: User does not exist

Expense Management Backend → Database: Save new user details

Database --> Expense Management Backend: Acknowledgment

Expense Management Backend --> Front-end Application: Registration successful

Front-end Application --> User: Confirm registration

[Existing User Login]

Expense Management Backend → Database: Verify user credentials

alt [Valid Credentials]

Database --> Expense Management Backend: User authenticated

Expense Management Backend --> Front-end Application: Login successful

Front-end Application --> User: Access granted

[Invalid Credentials]

Database --> Expense Management Backend: Authentication failed

Expense Management Backend --> Front-end Application: Login failed

Front-end Application --> User: Show error message

Password Recovery

User → Front-end Application: Request password recovery

Front-end Application → Expense Management Backend: Send password recovery request

Expense Management Backend → Database: Verify user identity

Database --> Expense Management Backend: User found

Expense Management Backend → User: Send password reset link (via email)

User → Front-end Application: Access password reset link

Front-end Application → Expense Management Backend: Submit new password

Expense Management Backend → Database: Update user password

Database --> Expense Management Backend: Password updated

Expense Management Backend --> Front-end Application: Password reset successful

Front-end Application --> User: Confirm password reset

Language Settings

User → Front-end Application: Change interface language

Front-end Application → Expense Management Backend: Update language preferences

Expense Management Backend → Database: Save language preferences

Database --> Expense Management Backend: Acknowledgment

Expense Management Backend --> Front-end Application: Language settings updated

Front-end Application --> User: Confirm language change

**User** | **Front-end Application** | **Expense Management Backend** | **Database**

Sprint 2: Core Expense Management Features

Objective: Implement core functionalities for tracking expenses, setting budgets, and managing daily expenditure limits.

Sprint Details: Develop input forms for recording expenses, allow users to set budgets, and notify them if daily limits are exceeded.

• Expense Tracking: Users can track their expenses.

• Budget Setting: Users can set their budgets.

• Daily Expenditure Limits: Users can manage and get notified about their daily expenditure limits.

Duration: 2 weeks

Sprint 2: Core Expense Management Features
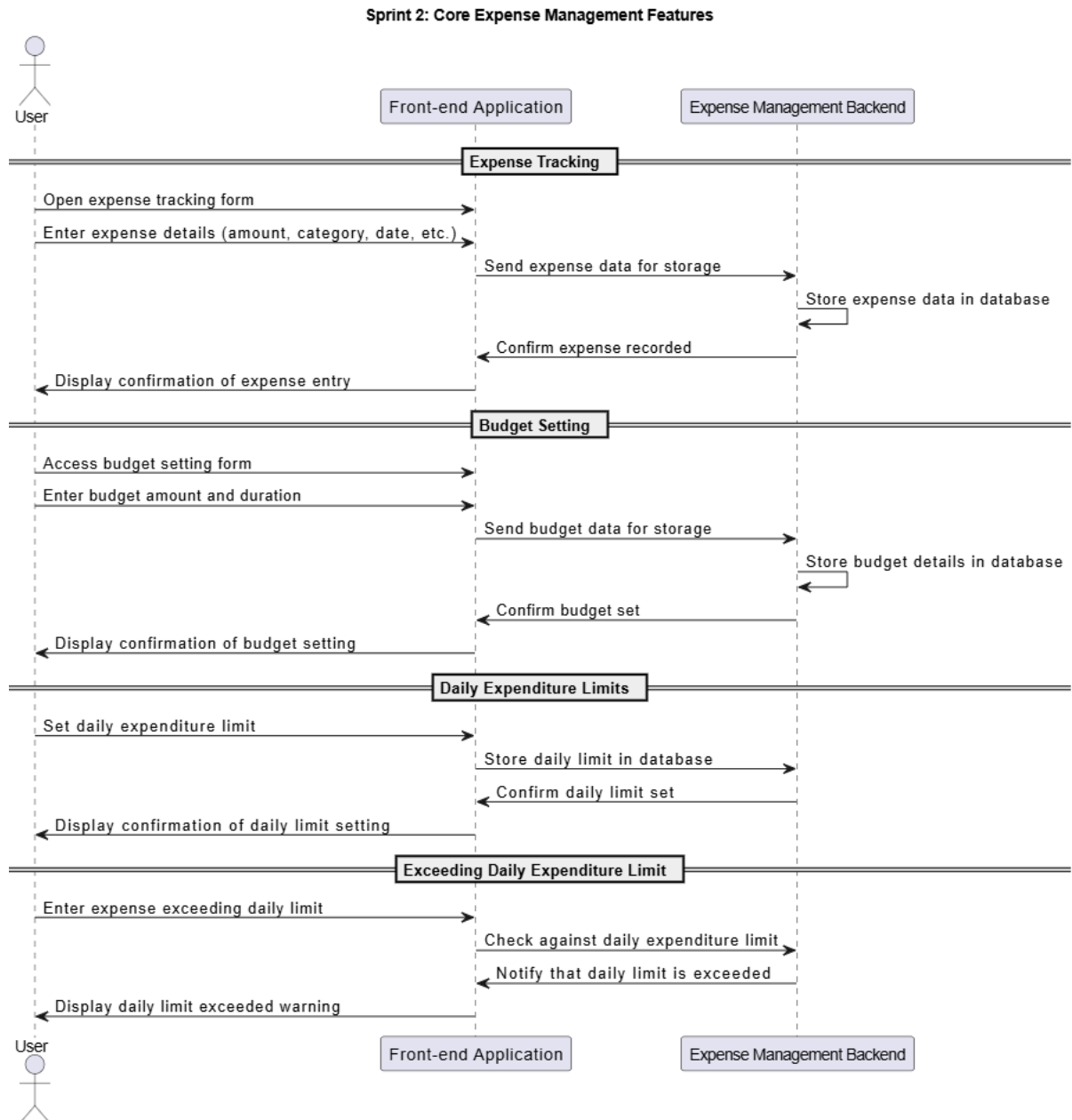
Sprint 3: Financial Insights and History

Objective: Develop features that provide users with insights into their financial activities.

Sprint Details: Includes viewing expense history, setting reminders for expenses, and generating financial reports.

• Expense History: Users can view their expense history.

• Expense Reminders: Users can set reminders for expenses.

• Financial Reporting: Users can generate financial reports.

Duration: 2 weeks

Sprint 3: Financial Insights and History
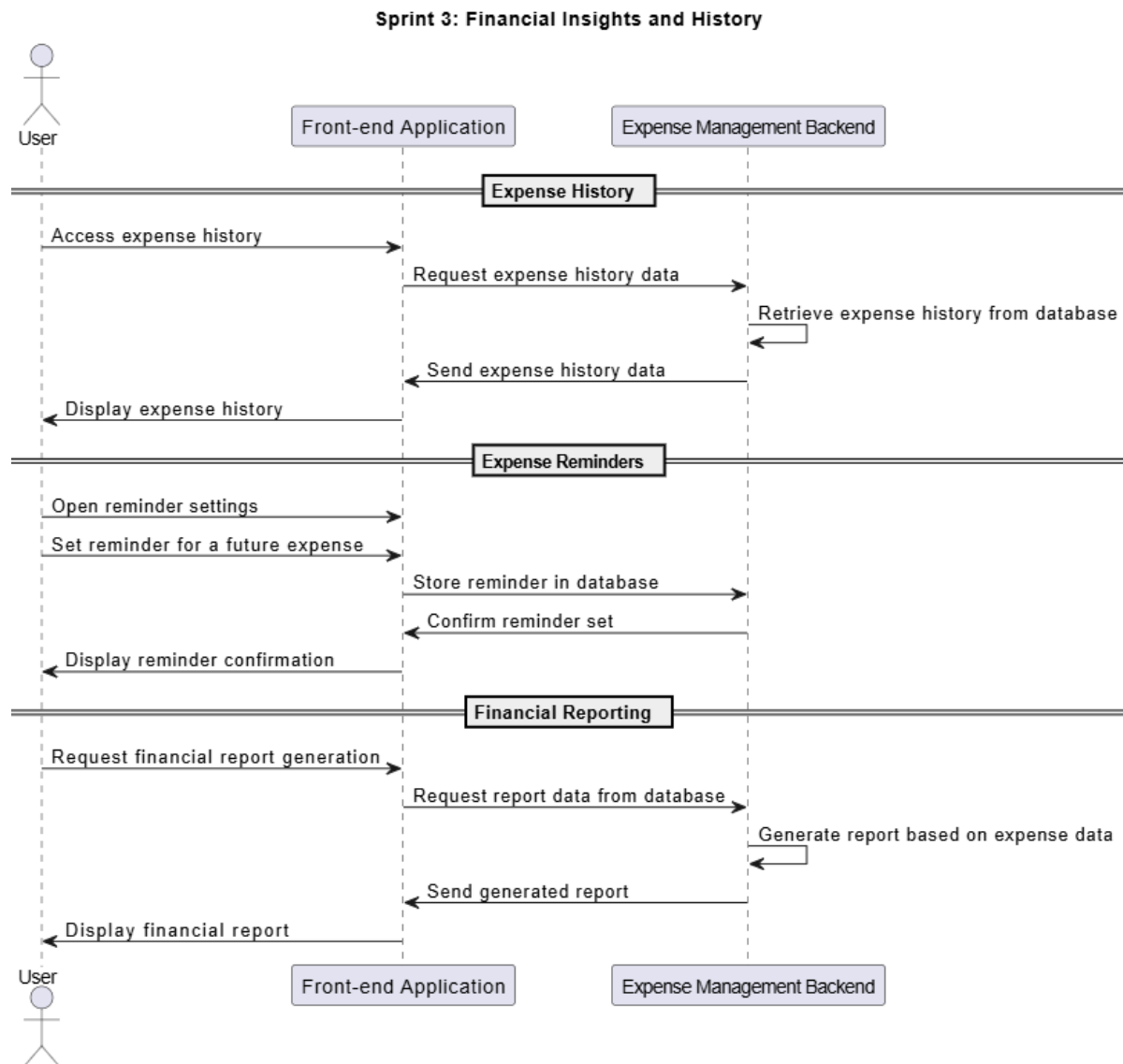
Sprint 4: Advanced Financial Management

Objective: Add advanced financial management features.

Sprint Details: Includes emergency fund setup, support for multiple currencies, and dynamic

budget adjustments.

• Emergency Funds Management: Users can manage their emergency funds.

• Currency Preference: Users can set their currency preferences.

• Dynamic Budget Adjustment: Users can adjust budgets dynamically based on spending

behaviour.

Duration: 2 weeks

Sprint 4: Advanced Financial Management
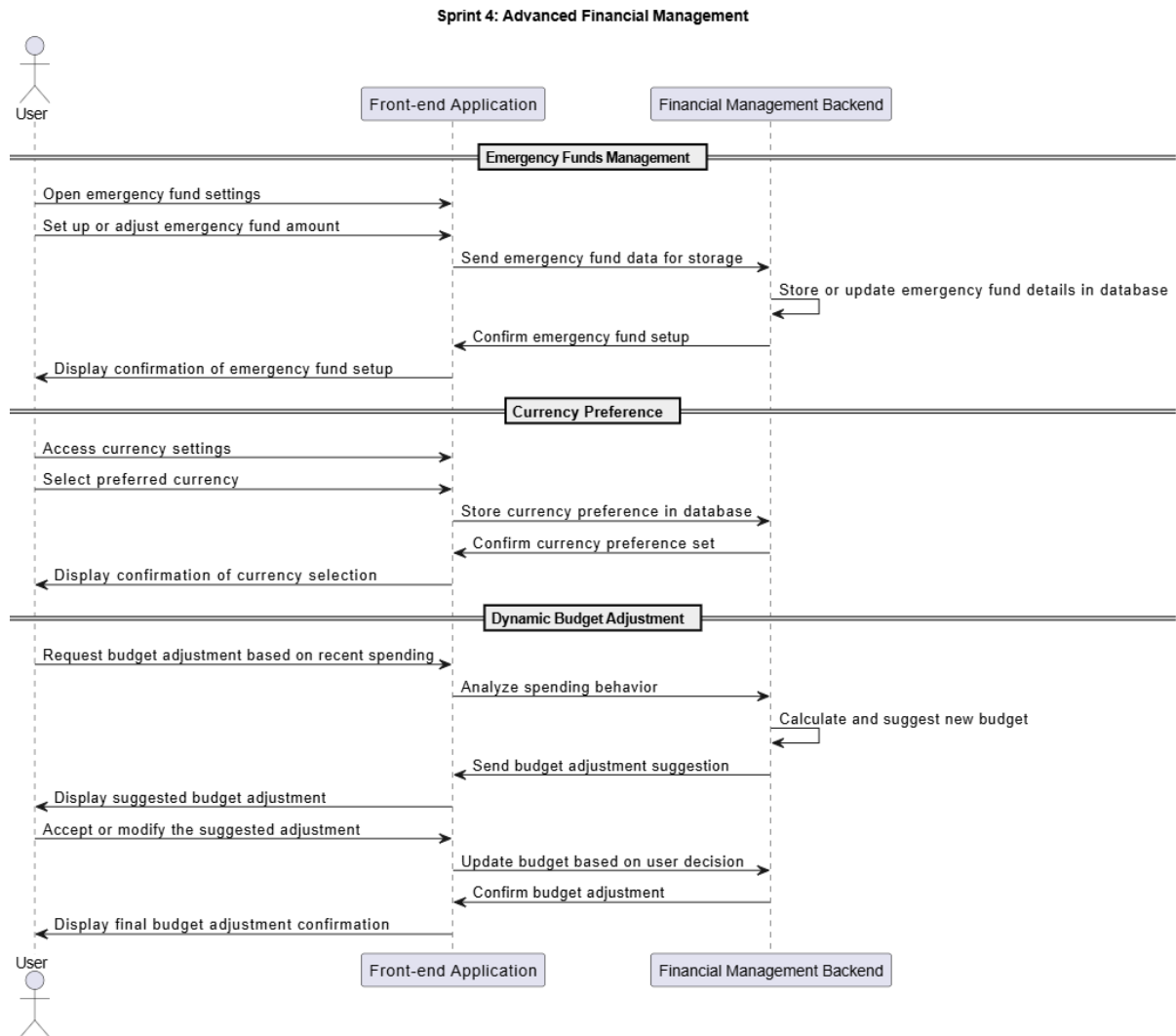
Sprint 5: Invoicing and Payment Features

Objective: Develop features related to invoice generation, tracking invoice payments, and basic project management tools.

Sprint Details: Includes invoice generation, tracking payments, and managing tasks and expenses related to specific projects.

• Invoice Generation: Users can generate invoices.

• Invoice Payment Tracking: Users can track invoice payments.

• Project Management: Users can manage tasks and expenses related to projects.

Duration: 2 weeks

Sprint 5: Invoicing and Payment Features
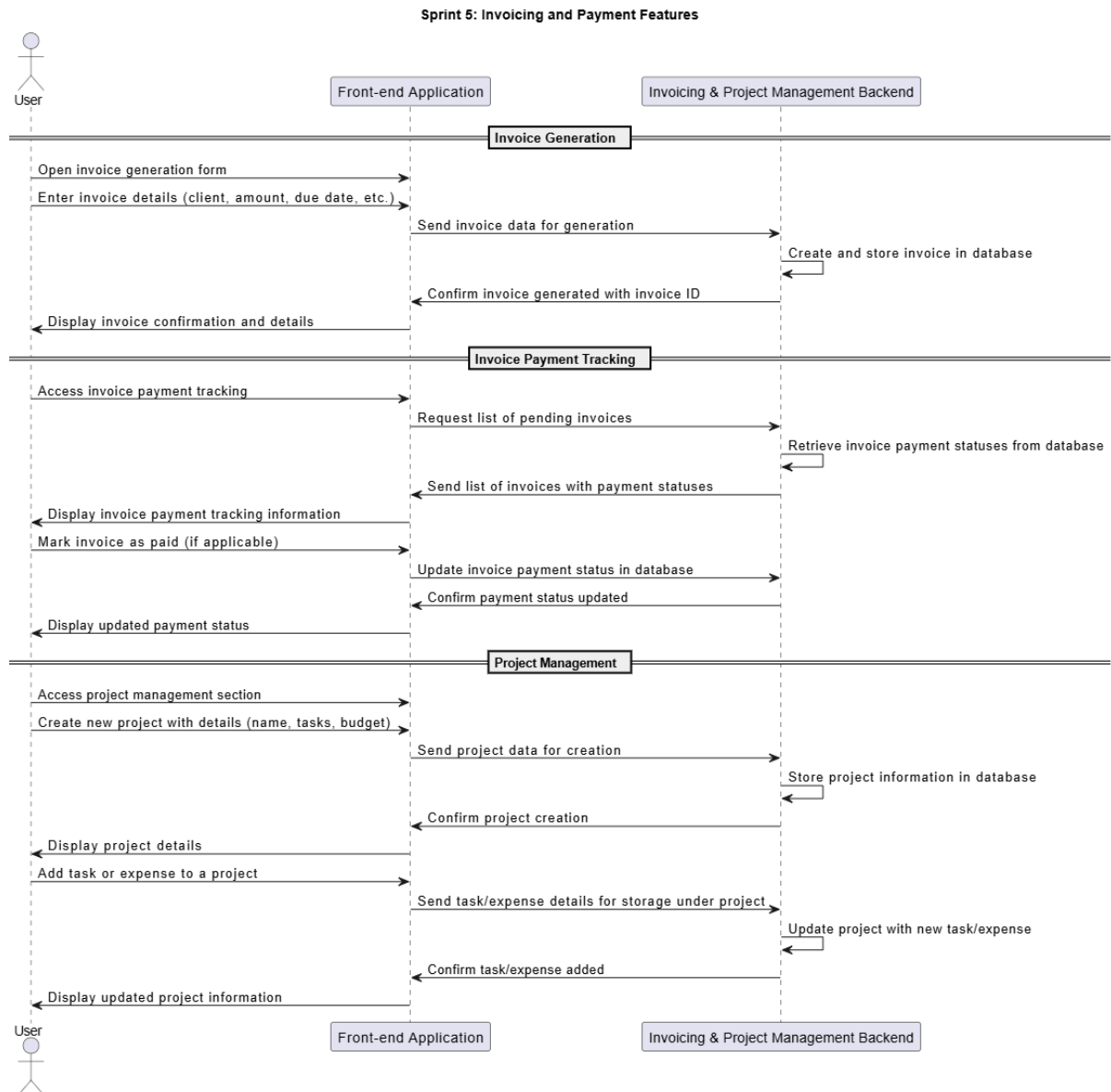
Sprint 6: User and System Administration

Objective: Focus on administration and system management tasks.

Sprint Details: Includes user account management, handling system updates, resolving user issues, and managing user feedback.

• User Account Management: Admins can manage user accounts.

• System Updates: Admins can handle system updates.

• User Issue Resolution: Admins can resolve user issues.

• System Feedback Management: Admins can manage user feedback.

Duration: 2 weeks
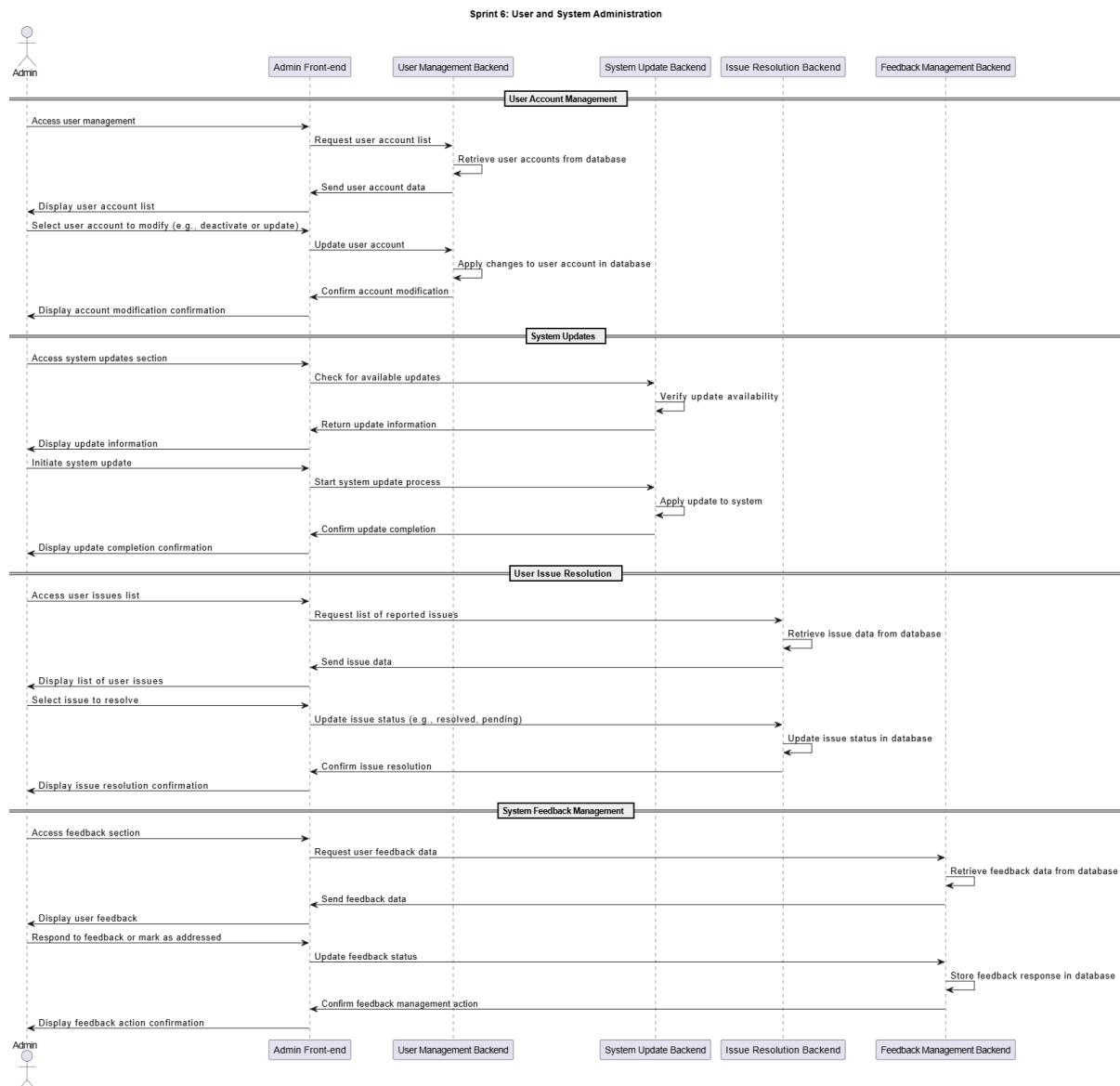
Sprint 7: Data Security and Enforcement

Objective: Ensure data security enforcement, manage advertisement campaigns, and develop features for demographic targeting.

Sprint Details: Focuses on data security, managing ad campaigns, and demographic targeting.

• Data Security Enforcement: Ensure data security measures are enforced.

• Ad Campaign Management: Manage advertisement campaigns.

• Demographic Targeting: Develop features for demographic targeting.

Duration: 2 weeks

Sprint 7: Data Security and Enforcement

Admin | Admin Front-end | Data Security Backend | Ad Campaign Management Backend | Demographic Targeting Backend

Data Security Enforcement

Admin → Admin Front-end: Access data security settings
Admin Front-end → Data Security Backend: Retrieve current security configurations
Data Security Backend: Load security settings from database
Data Security Backend → Admin Front-end: Send security configurations
Admin Front-end → Admin: Display security configurations
Admin → Admin Front-end: Update security policies or enable security features
Admin Front-end → Data Security Backend: Apply new security settings
Data Security Backend: Enforce updated security policies across system
Data Security Backend → Admin Front-end: Confirm security settings updated
Admin Front-end → Admin: Display security update confirmation

Ad Campaign Management

Admin → Admin Front-end: Access ad campaign management
Admin Front-end → Ad Campaign Management Backend: Retrieve list of active ad campaigns
Ad Campaign Management Backend: Load active campaigns from database
Ad Campaign Management Backend → Admin Front-end: Send ad campaign data
Admin Front-end → Admin: Display ad campaign details
Admin → Admin Front-end: Create, modify, or end ad campaign
Admin Front-end → Ad Campaign Management Backend: Apply ad campaign changes
Ad Campaign Management Backend: Update campaign data in database
Ad Campaign Management Backend → Admin Front-end: Confirm ad campaign changes
Admin Front-end → Admin: Display campaign update confirmation

Demographic Targeting

Admin → Admin Front-end: Access demographic targeting options
Admin Front-end → Demographic Targeting Backend: Retrieve demographic targeting settings
Demographic Targeting Backend: Load demographic data and targeting options from database
Demographic Targeting Backend → Admin Front-end: Send demographic options
Admin Front-end → Admin: Display targeting options
Admin → Admin Front-end: Set demographic targets for campaigns
Admin Front-end → Demographic Targeting Backend: Save targeting criteria
Demographic Targeting Backend: Apply demographic targeting criteria to campaigns
Demographic Targeting Backend → Admin Front-end: Confirm targeting settings
Admin Front-end → Admin: Display targeting update confirmation

Admin | Admin Front-end | Data Security Backend | Ad Campaign Management Backend | Demographic Targeting Backend

Sprint 8: Advertisement Management and Performance

Objective: Develop features that allow users to monitor the performance of ad campaigns.

Sprint Details: Includes generating reports and analytics for ad performance.

• Ad Performance Monitoring: Users can monitor and analyze the performance of ad

campaigns.

Duration: 1 week

Sprint 8: Advertisement Management and Performance