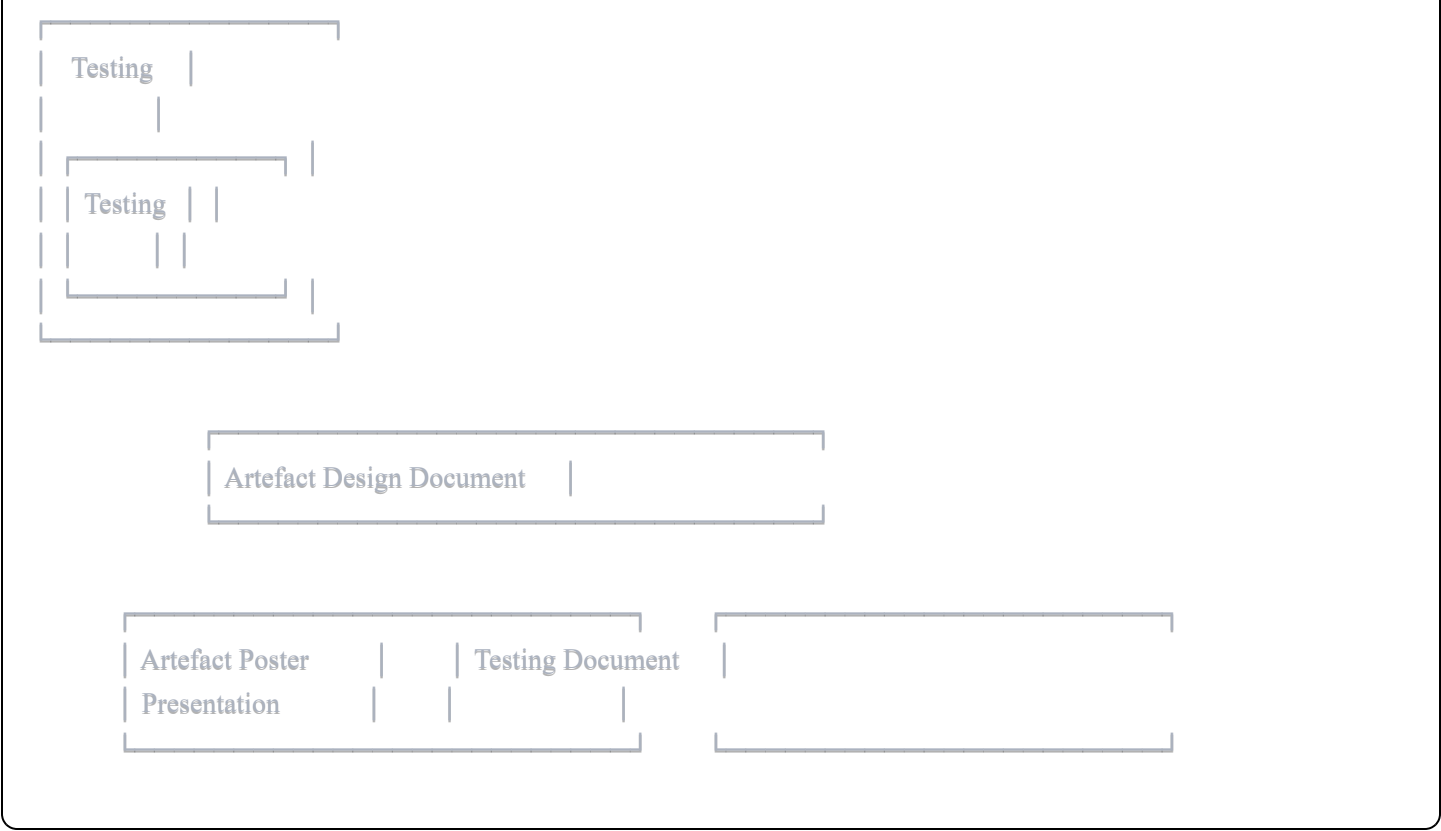


NutriLift - Functional Decomposition Diagrams (FDD)

Complete Set for All Subsystems

FDD 1: User Management System

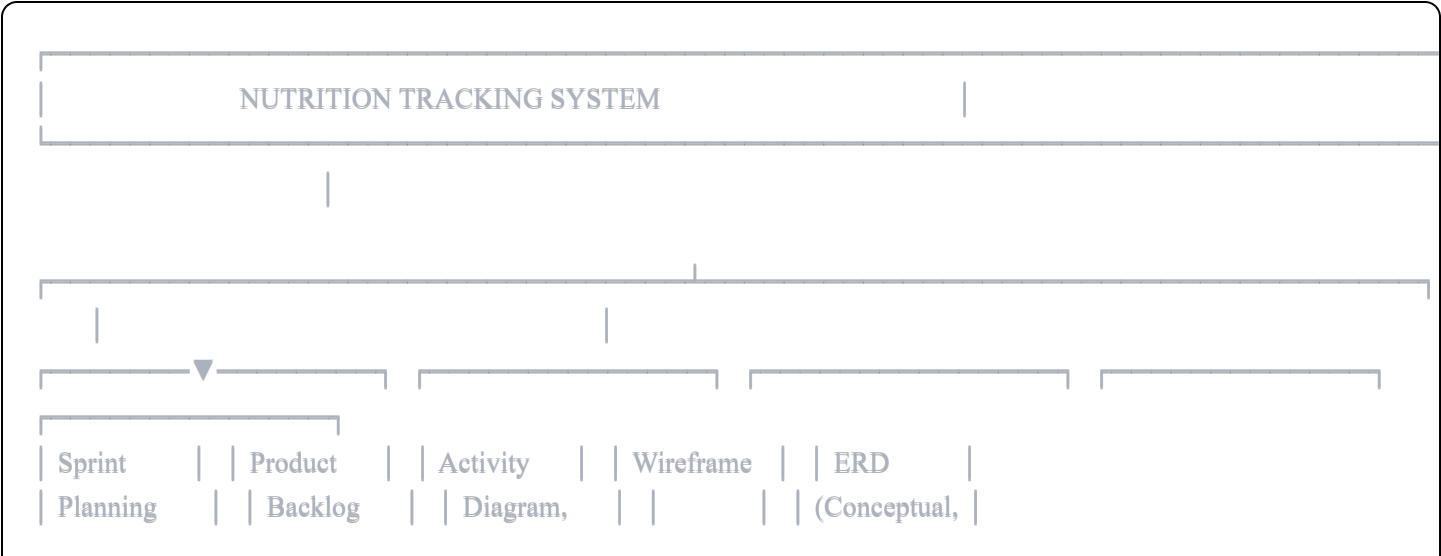


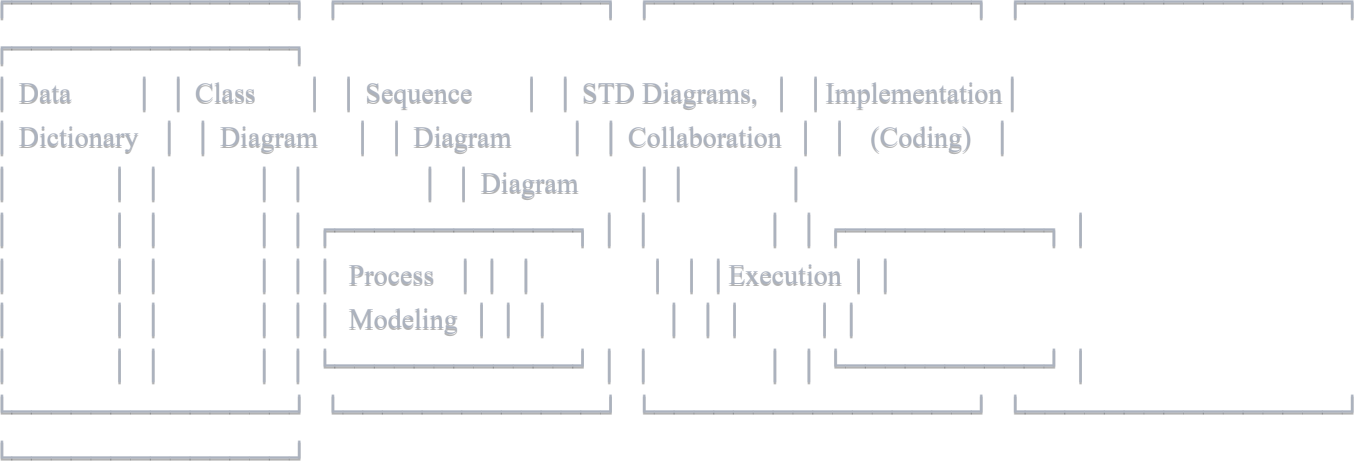
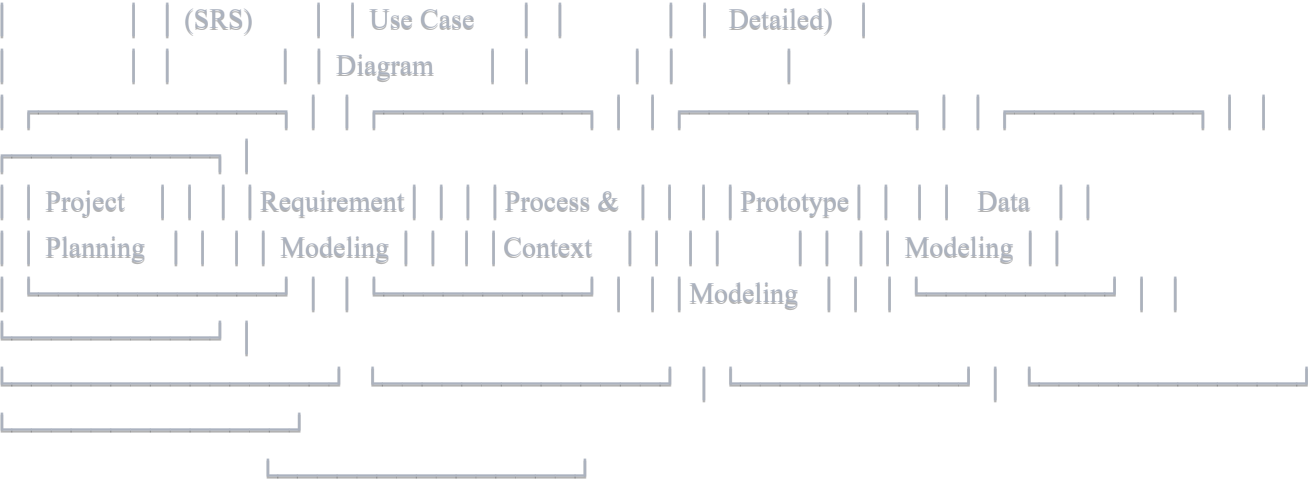


Key Features:

- User Registration
- Login & Authentication
- Profile Management
- Password Recovery
- User Settings & Preferences

FDD 2: Nutrition Tracking System

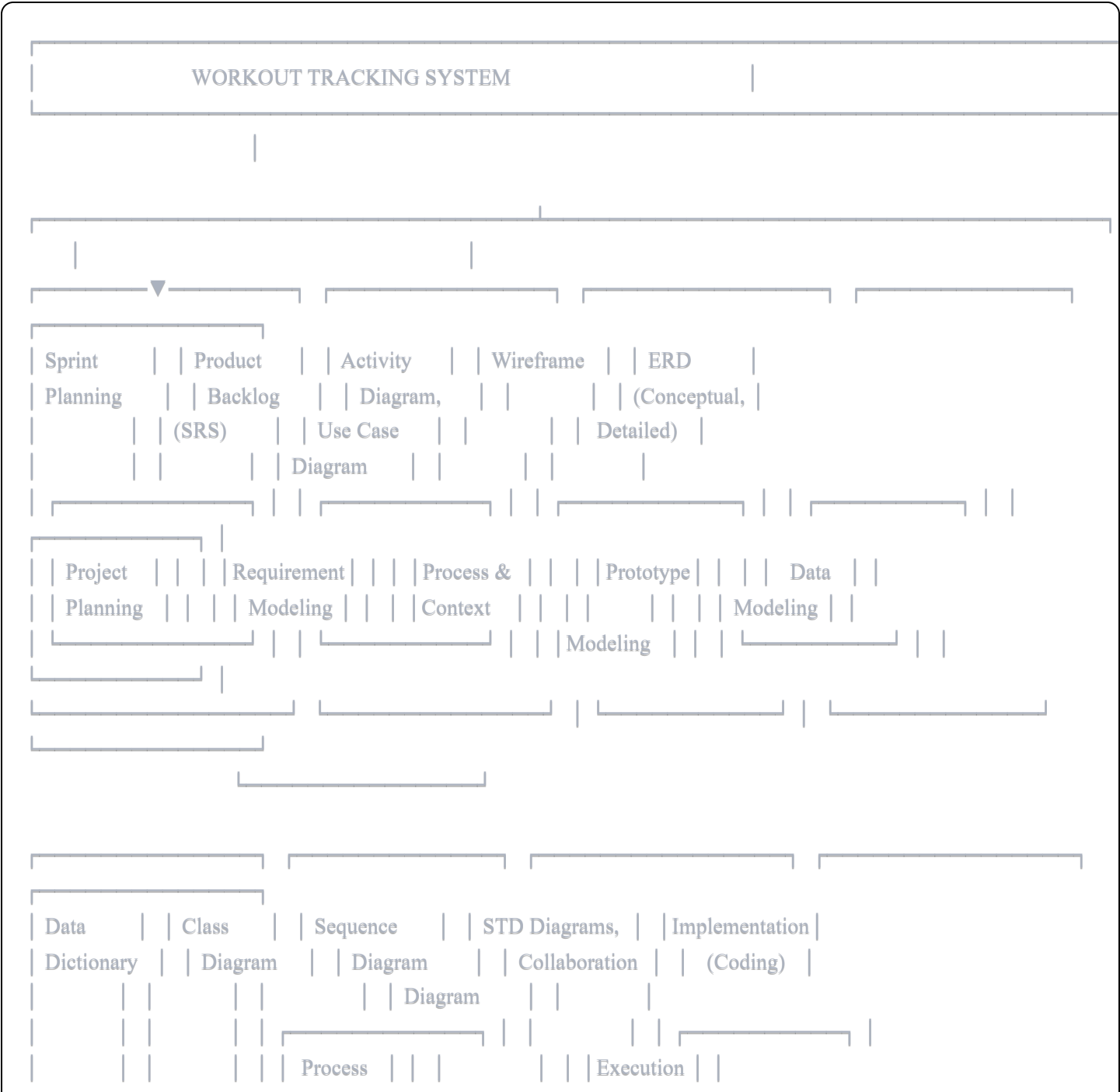




Key Features:

- Meal Logging
- Calorie & Macro Tracking
- Searchable Food Database
- Hydration Tracker
- Quick Log for Frequent Meals
- Nutrition Progress Reports

FDD 3: Workout Tracking System

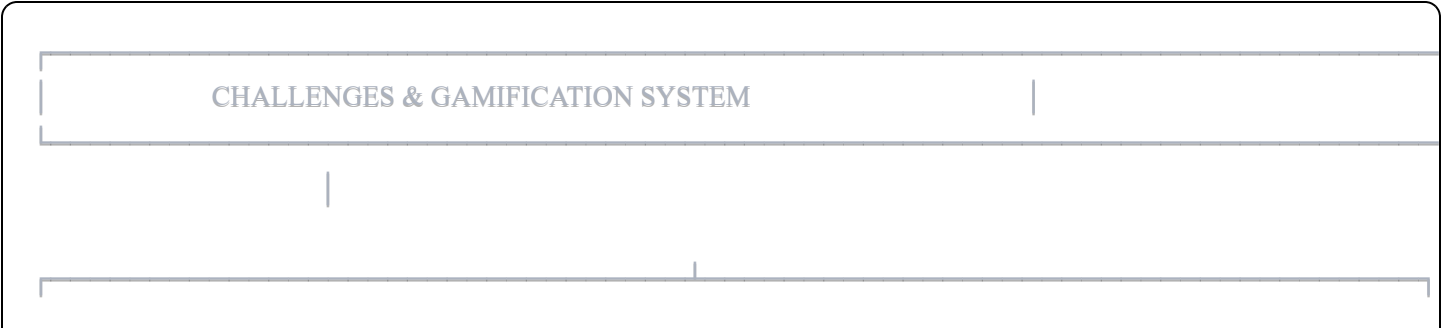


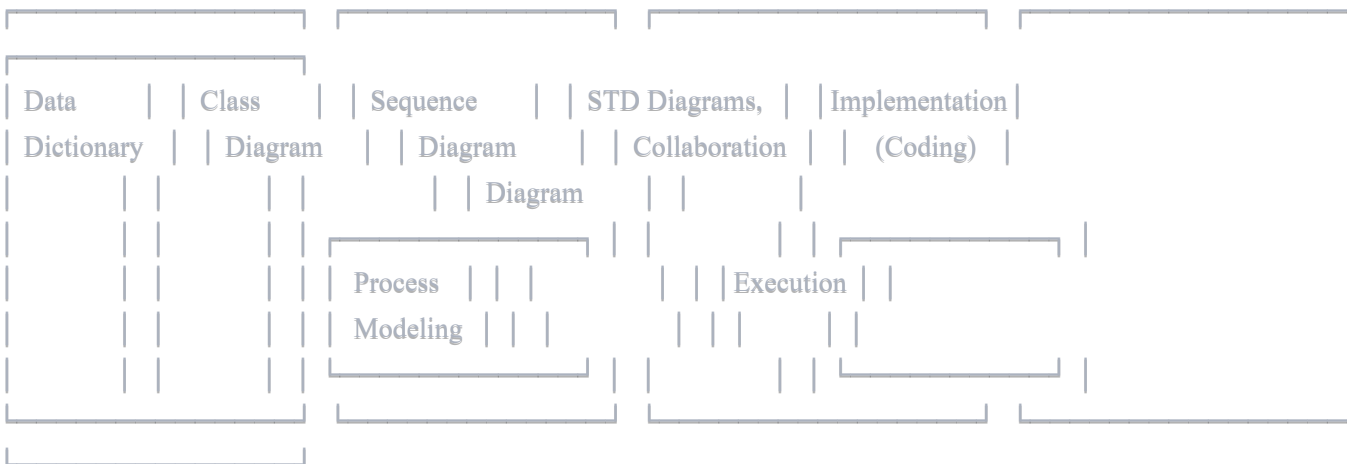
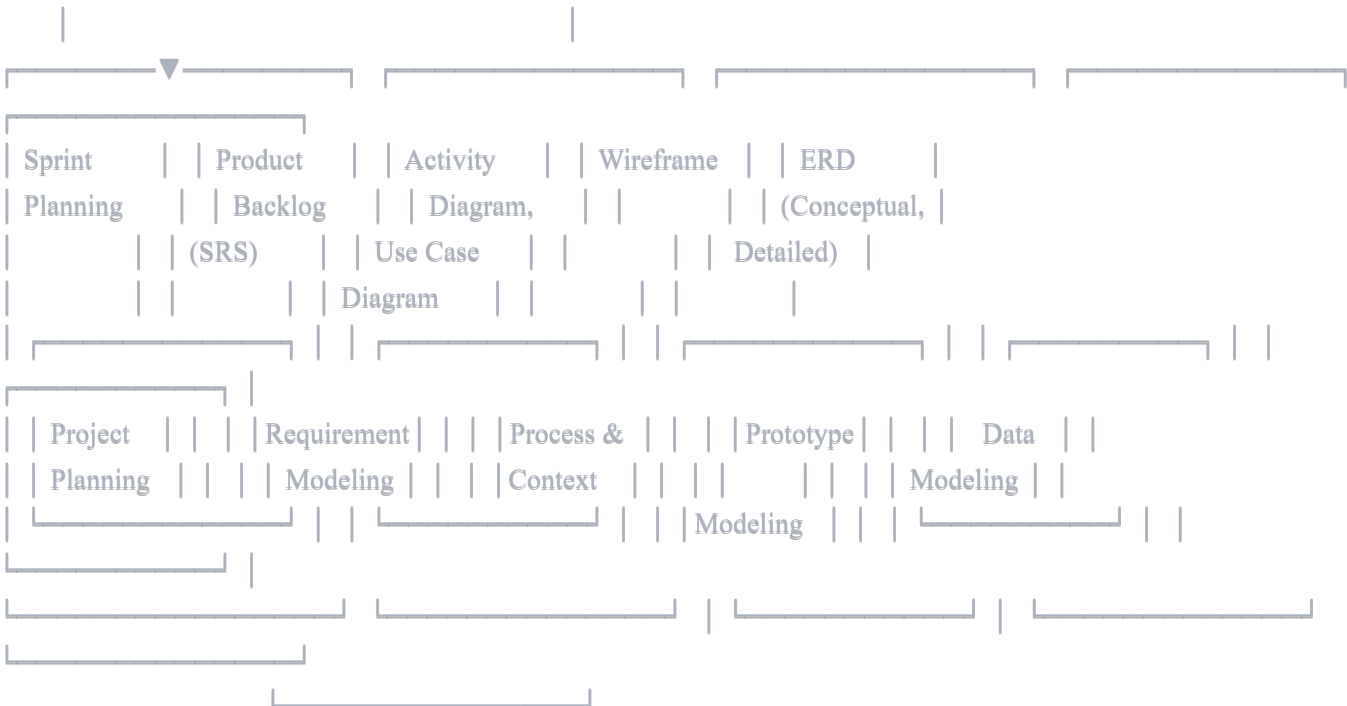


Key Features:

- Exercise Logging (sets, reps, duration)
- Custom Workout Builder
- Workout History & Calendar
- Exercise Library
- Workout Progress Tracking

FDD 4: Challenges & Gamification System





Artefact Design Document

Key Features:

- Daily & Weekly Goals
- Streak Tracking & Rewards
- Badges & Achievements
- Leaderboards
- Mood & Energy Tracker

FDD 5: Rep Count Module (AI-Powered)

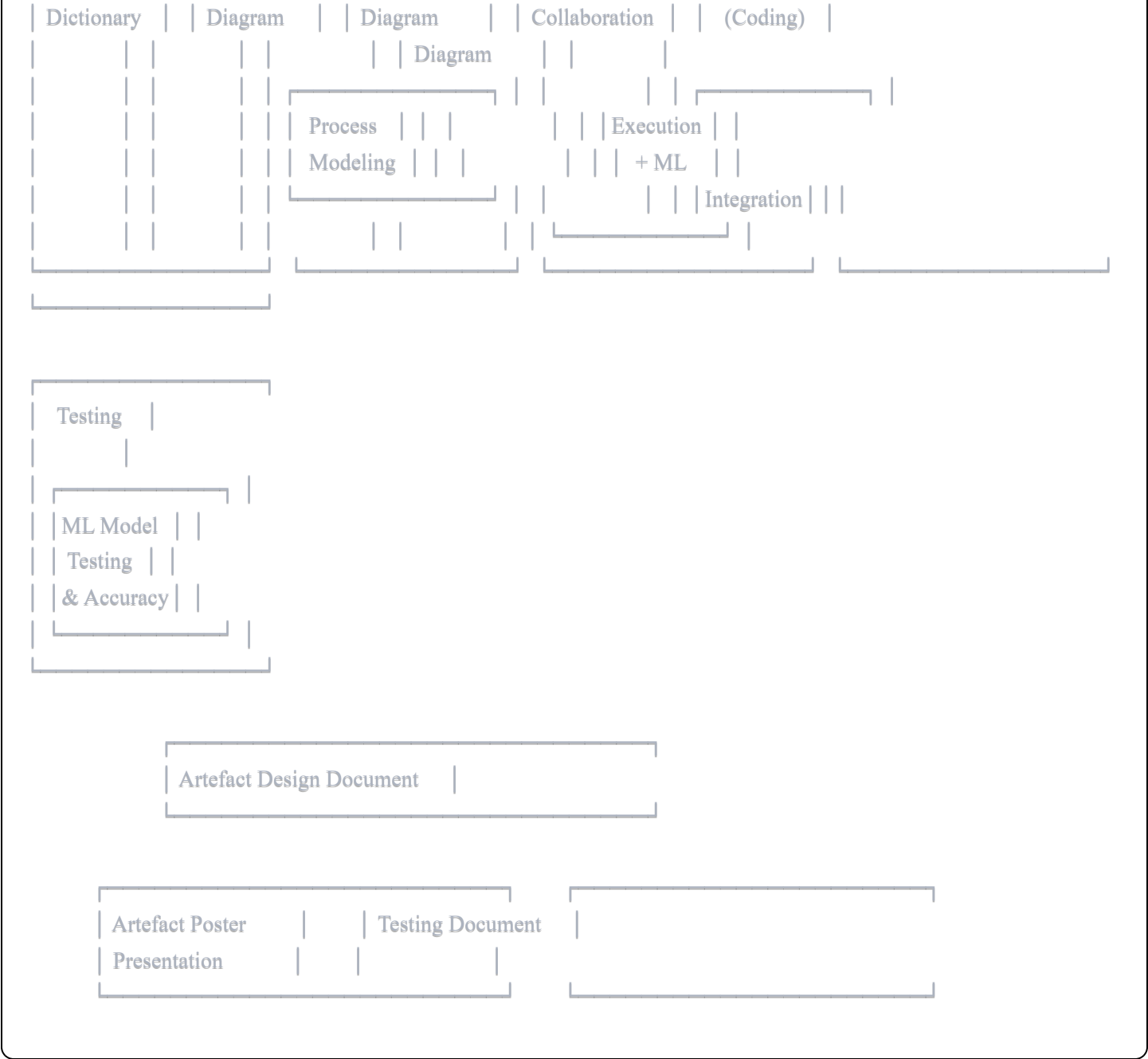
REP COUNT MODULE (CAMERA-BASED POSE TRACKING)

▼

Sprint Planning	Product Backlog (SRS)	Activity Diagram, Use Case Diagram	Wireframe	ERD (Conceptual, Detailed)
-----------------	-----------------------	------------------------------------	-----------	----------------------------

Project Planning	Requirement Modeling	Process & Context Modeling	Prototype	Data Modeling
------------------	----------------------	----------------------------	-----------	---------------

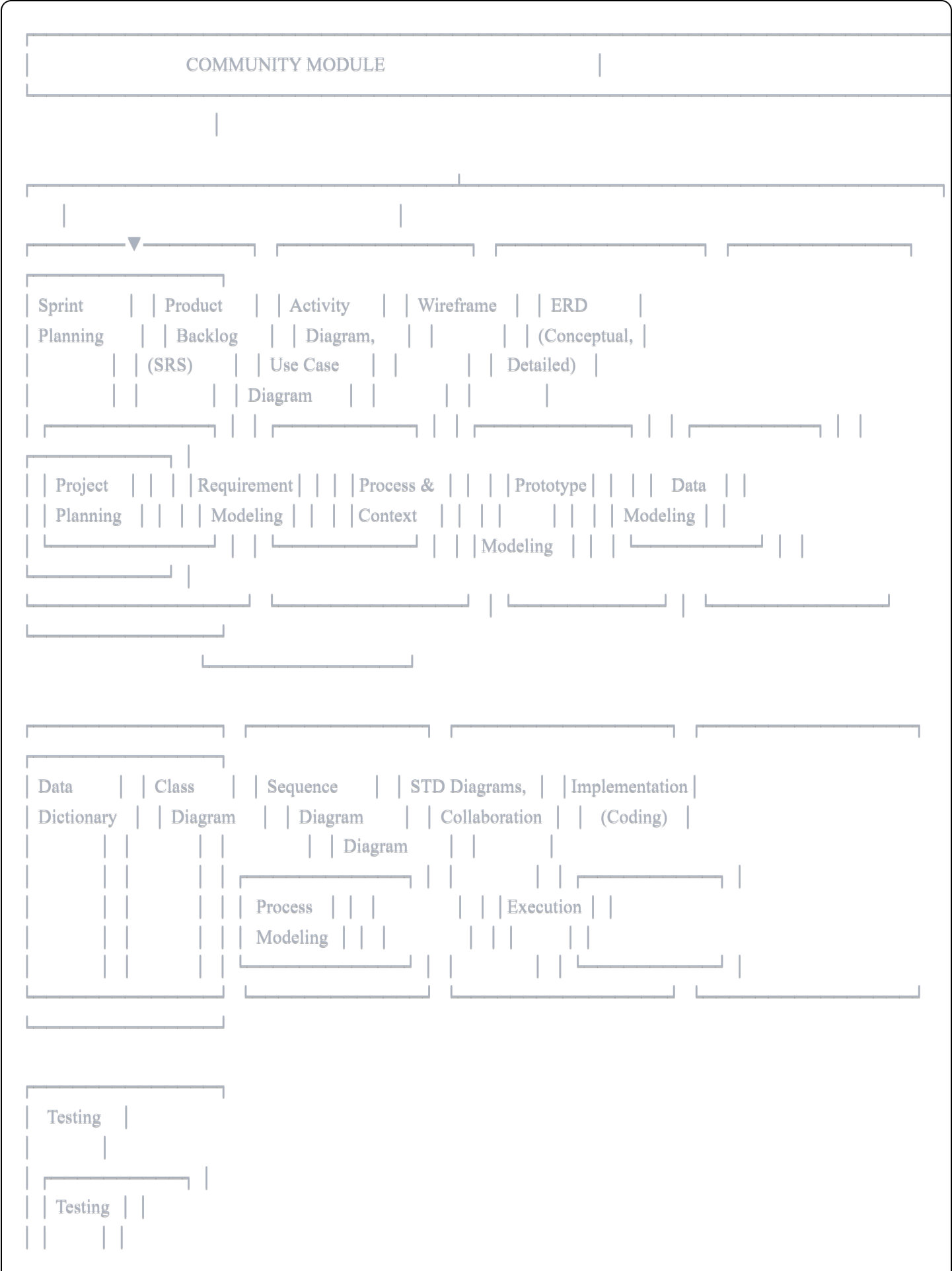
Data	Class	Sequence	STD Diagrams,	Implementation
------	-------	----------	---------------	----------------

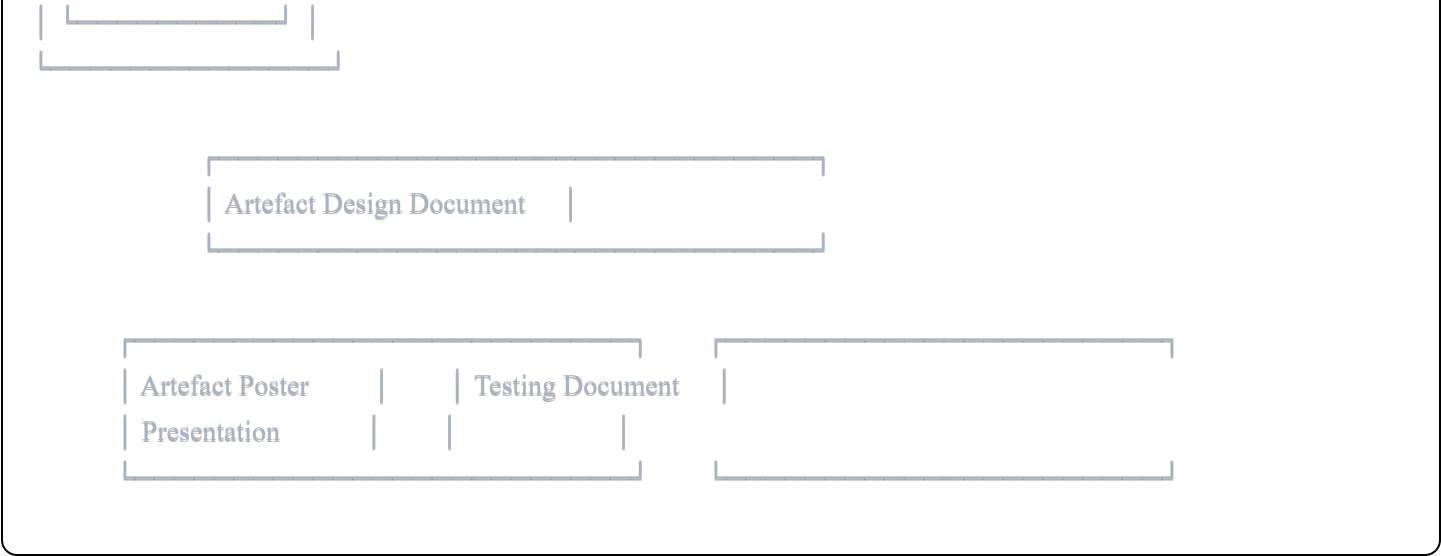


Key Features:

- Google ML Kit Pose Detection Integration
- Real-time Camera Tracking
- Automatic Rep Counting
- Posture Detection & Analysis
- Form Feedback (optional)

FDD 6: Community Module

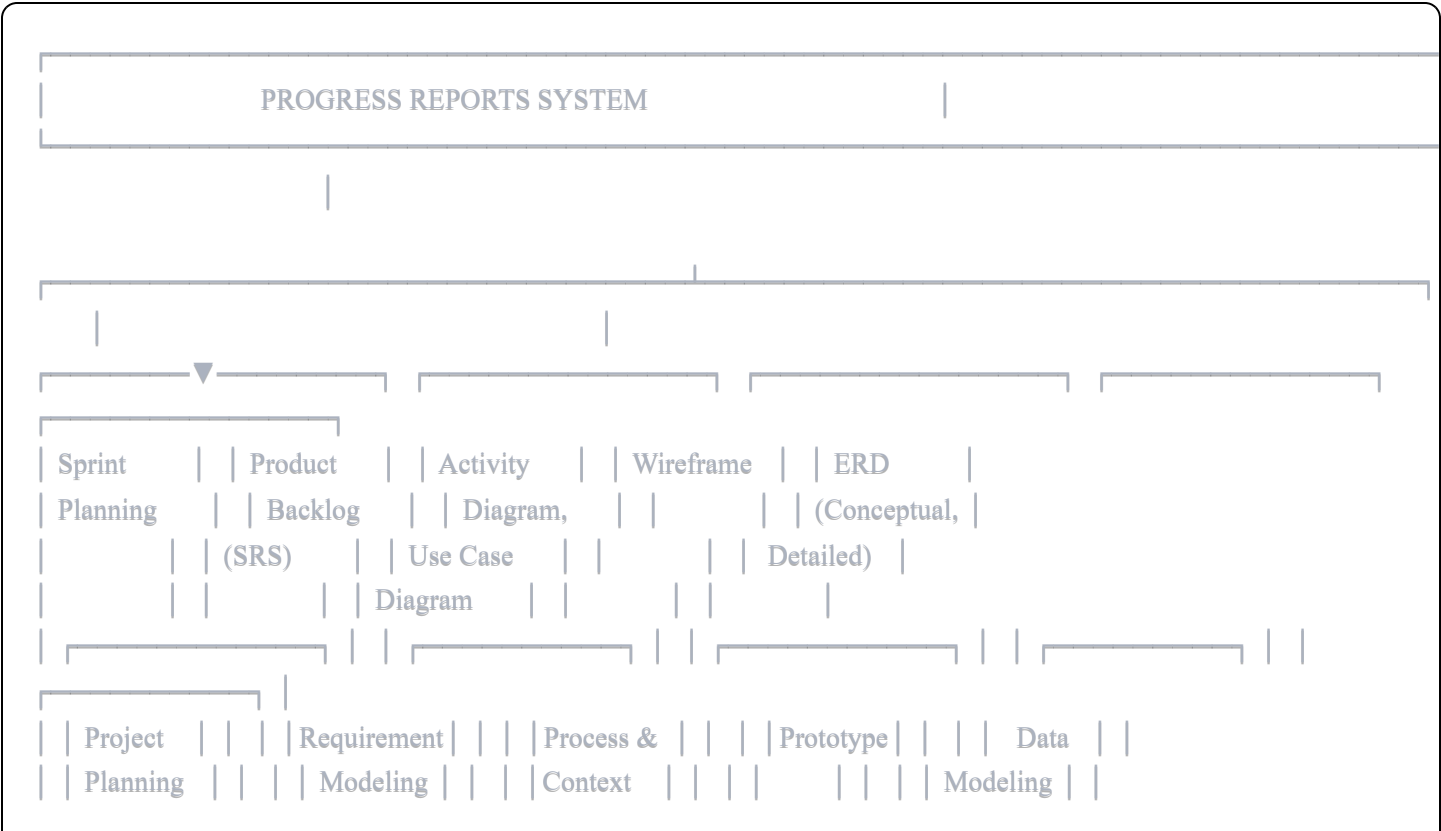


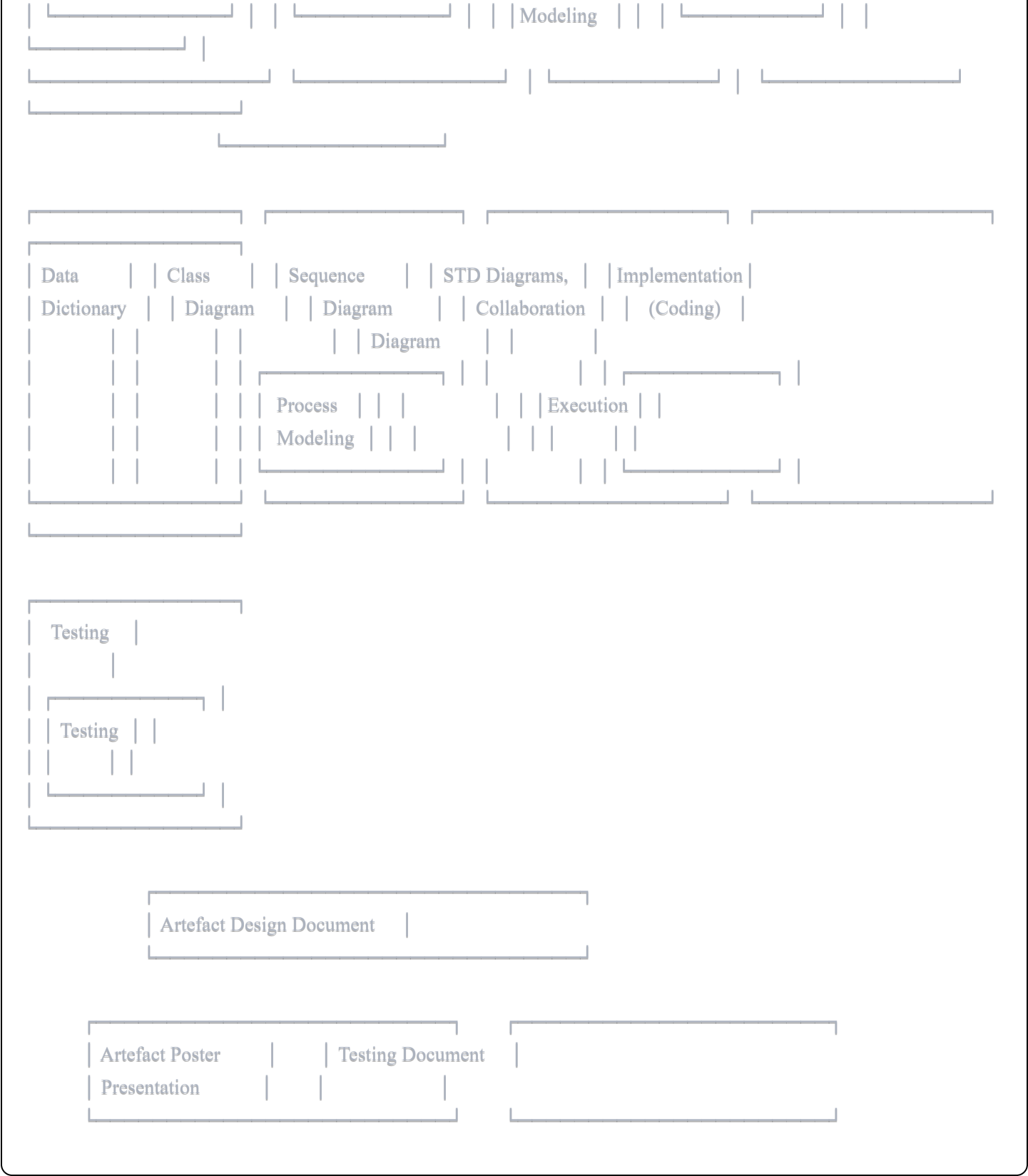


Key Features:

- Create & Share Posts
- Comment & Like System
- Group Challenges
- Community Feed
- Social Engagement Features

FDD 7: Progress Reports System





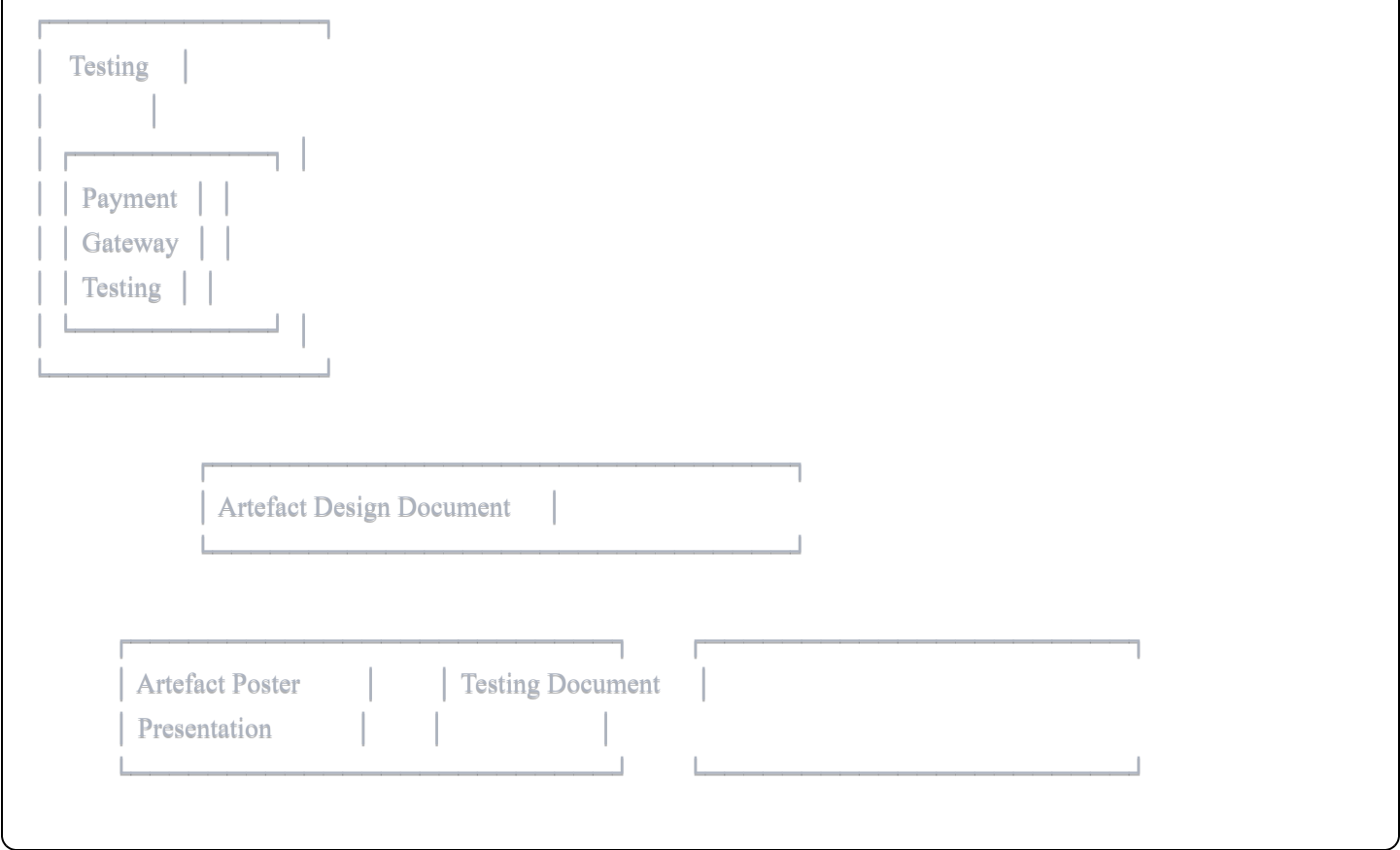
Key Features:

- Visual Charts & Graphs
- Weekly Progress Summary
- Monthly Reports

- Wellness Score Calculation
- Nutrition & Workout Analytics

FDD 8: Payment Integration System





Key Features:

- Premium Feature Access
- International Payment Gateway Integration
- Nepali Payment Gateway Integration (eSewa, Khalti, etc.)
- Subscription Management
- Transaction History
- Payment Security

FDD 9: Admin Panel System



Sprint	Product	Activity	Wireframe	ERD
Planning	Backlog	Diagram,		(Conceptual,
	(SRS)	Use Case		Detailed)
		Diagram		

Project	Requirement	Process &	Prototype	Data
Planning	Modeling	Context		Modeling
			Modeling	

Data	Class	Sequence	STD Diagrams,	Implementation
Dictionary	Diagram	Diagram	Collaboration	(Coding)
		Diagram		
		Process		Execution
		Modeling		

Testing
Testing

Artefact Design Document

Artefact Poster	Testing Document
-----------------	------------------

Key Features:

- User Account Management
 - Content Moderation (Posts, Comments)
 - Analytics Dashboard
 - Report Handling
 - System Monitoring
 - User Role Management
-

Summary: Complete FDD Overview

Development Methodology: SCRUM (Agile)

Each subsystem follows the same iterative development lifecycle:

1. **Sprint Planning** → Project planning and sprint goals
 2. **Product Backlog (SRS)** → Requirements gathering and modeling
 3. **Activity & Use Case Diagrams** → Process and context modeling
 4. **Wireframes** → UI/UX prototyping
 5. **ERD (Conceptual & Detailed)** → Database design and data modeling
 6. **Data Dictionary** → Complete database schema documentation
 7. **Class Diagram** → Object-oriented design
 8. **Sequence Diagram** → Process flow modeling
 9. **STD & Collaboration Diagrams** → State transitions and object interactions
 10. **Implementation (Coding)** → Actual development
 11. **Testing** → Quality assurance
 12. **Artefact Design Document** → Complete technical documentation
 13. **Deliverables** → Poster presentation and testing documentation
-

Technology Stack (All Subsystems)

Frontend: Flutter (Cross-platform mobile - Android & iOS)

Backend: Django REST Framework / Node.js with Express

Database: PostgreSQL

AI/ML: Google ML Kit (Pose Detection for Rep Counter)

Payment: International Gateway + Nepali Gateways (eSewa, Khalti)

Version Control: Git & GitHub

Deployment: AWS

Design Tools: Figma (for wireframes and prototypes)

Sprint Timeline

- **Week 1-2:** User Management System
 - **Week 3-4:** Nutrition Tracking System
 - **Week 5-6:** Workout Tracking System
 - **Week 7-8:** Challenges & Gamification System
 - **Week 9-10:** Rep Count Module (AI Integration)
 - **Week 11-12:** Community Module
 - **Week 13-14:** Progress Reports System
 - **Week 15-16:** Payment Integration System
 - **Week 17-18:** Admin Panel System
 - **Week 19-20:** Integration Testing & Documentation
-

Notes

- Each subsystem will be developed iteratively following Scrum methodology
- Each sprint results in one working increment of the system
- All subsystems integrate to form the complete NutriLift mobile application
- This approach allows for continuous feedback and adaptation

- Testing is performed throughout each sprint, not just at the end

End of FDD Documentation