Ivy Tech

ABC-Payroll System Development Plan

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Week 1: Foundation Setup

Goals:

* Finalize project structure
* Implement core database operations
* Basic authentication

Tasks:

* Set up SQLite database with proper schema (employees, users tables)
* Create Java classes: Employee, User, DatabaseService
* Implement basic password hashing with BCrypt
* Test CRUD operations for employees

Deliverables:

* Working database connection
* Basic login functionality (username/password)

Week 2-3: Core Features

Goals:

* Complete authentication system
* Employee management UI

Tasks:

* Enhance AuthService with:
* Session management
* Password reset (temporary test override)

Build console menu for:

* Employee list/view/add/edit
* Admin/user role checks
* Implement input validation

Deliverables:

* Functional admin dashboard
* Employee management console

Week 4: Testing & Debugging

Goals:

* Stabilize core features
* Prepare test data

Tasks:

* Create 15+ test employees (mix of admins/regular users)
* Implement JUnit tests for:
* Authentication (AuthServiceTest)
* Database operations (DatabaseServiceTest)
* Fix login bugs (BCrypt verification issues)

Test Data:

sql

INSERT INTO employees VALUES

(15, 'Test', 'User1', 'test1@company.com', 'Tester', 50000, '2023-01-01'),

[...]; -- Add 14 more

Week 5-6: Advanced Features

Goals:

* Add business logic
* Reporting

Tasks:

Implement:

* Payroll calculation
* Department filtering
* CSV export

Add audit logging:

java

public class AuditLogger {

public static void log(String action) {

// Log to database/file

}

}

Week 7: Security Hardening

Goals:

* Remove test overrides
* Enhance security

Tasks:

* Replace password bypass with:
* Secure password policies
* Brute-force protection
* Encrypt sensitive data
* Implement proper error handling

Week 8: Deployment Prep

Goals:

* Finalize documentation
* Prepare install package

Tasks:

Create:

* User manual (PDF/Word)
* setup.bat installer
* Verify all test cases
* Code review