**SIT 725**

**Applied Software Engineering**

**Task 6.2D**

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This document outlines the testing implementation for a Node.js-based UAV Performance Analysis Platform that processes flight data, manages user authentication, and provides data visualization capabilities.

**Unit Testing**

4 tests covering data validation, statistics calculation, and flight data processing

**Location:** tests/unit/UAVDataProcessor.test.js

Results:

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**Integration Testing**

**Location:** tests/integration/auth.test.js & tests/integration/flights.test.js

8 tests covering user registration, login, profile management, and flight data operations.

Results:

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**API Testing**

Integrated within tests/integration/auth.test.js & tests/integration/flights.test.js.

HTTP request testing using Supertest library for endpoint validation.  
8 API endpoint tests covering authentication, user management, and flight data operations.

**End-to-End Testing**

**Location:** tests/e2e/user-workflow.test.js

**Scenarios:** User registration → login → file upload → data analysis → report generation

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**Test coverage**

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