

# Capstone Weekly Status Report 10

**Date and Time:** November 9, 2025

**Student Name:** Satwik Alla

**Capstone Project:** SBOM Manager - Software Bill of Materials Management System

**Capstone Sponsor:** Software Engineering Department **Ethical Software Lab** – In-house project

**Capstone Advisor:** Prof. Mohammad Samarah & Prof. Melissa Sahl

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## Status Details:

### Work accomplished this Week

- Global Search System: Implemented comprehensive search with fuzzy matching (Fuse.js), multi-filters (date/platform/license), search history (10 recent), saved searches, and autosuggestions.
- SBOM Comparison Engine: Built side-by-side comparison (2-3 apps), component diffing algorithm, license change detection with color coding (red/green/yellow), similarity percentage, and PDF export.
- Statistics Dashboard: Created analytics page with interactive charts (Recharts) - application trends, component categories, license breakdown, platform distribution, top 10 components, and PDF export.
- Performance Optimization: Implemented infinite scroll, virtual scrolling (react-window for 1000+ rows), 300ms debouncing, TanStack Query caching (5-min), and lazy loading for charts.
- Advanced Filtering: Built complex filter builder (AND/OR logic), vendor autocomplete, license risk levels, custom presets, filter chips, filter history, and clear-all button.

### Work Planned for Next Week

#### Testing & Bug Fixes:

- End-to-end testing of all features
- Cross-browser testing (Chrome/Firefox/Safari/Edge)
- Responsive testing on mobile/tablet
- Edge case testing (file types/sizes)

API error handling verification Documentation:

- User guide with screenshots
- API documentation
- Deployment guide
- Developer setup guide
- Troubleshooting guide

**Problems, obstacles, needs, or questions that I need help with from client, advisor, or instructor**

None

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### **Overall Status**

- Project Status Color: Green
- Project Status Color from Previous Week: Green