

# Project Deliverables Checklist

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## Completed Items

### 1. Architecture Diagram

- [DONE] `docs/architecture/system-architecture.md` - Text-based diagrams and component design
- [DONE] `docs/architecture/detailed-design.md` - Detailed flow diagrams
- [DONE] `demo/ARCHITECTURE.md` - Demo-specific architecture

### 2. Source Code Repository

- [DONE] GitHub Repository: <https://github.com/nirajkb/SDE>
- [DONE] Source code in `src/` folder:
  - [DONE] `src/config/event-bus.js` - Message broker
  - [DONE] `src/services/click-ingestion.js` - Publisher
  - [DONE] `src/services/fraud-detection.js` - Subscriber 1
  - [DONE] `src/services/billing-service.js` - Subscriber 2 (with budget tracking)
  - [DONE] `src/services/analytics-service.js` - Subscriber 3
  - [DONE] `src/utils/logger.js` - Logging utility
  - [DONE] `src/app.js` - Main application
- [DONE] Services committed to GitHub

### 3. README File

- [DONE] Main `README.md` - Project overview
- [DONE] `src/README.md` - Source code documentation
- [DONE] `docs/README.md` - Documentation index

### 4. Project Report

- [DONE] `docs/report/technical-report.md` - Complete report including:
  - Executive summary
  - Problem statement and solution
  - System architecture
  - Implementation details
  - Quality attributes analysis
  - Testing results
  - Challenges and solutions
  - Future enhancements
  - Conclusion and learnings

### 5. Presentation Slides

- [DONE] `docs/presentation/presentation-slides.md` - 25 slides covering:
  - Problem statement

- Solution architecture
- Component details
- Technology stack
- Three Quality attributes
- Live demo guide
- Code walkthrough
- Testing results
- Challenges and learnings
- Q&A section

## 6. Presentation Demo

- [DONE] Working demo in `src/` folder
- [DONE] Enhanced with budget tracking:
  - Shows amount charged per click
  - Displays budget before/after
  - Tracks total spent vs initial budget
  - Shows campaign spending totals
  - Real-time revenue updates
- [DONE] Demo can be run with: `cd src && npm start`
- [DONE] Test client available: `curl` commands or `demo/test-client.js`

## 7. Quality Attributes Documentation

- [DONE] `docs/architecture/quality-attributes-analysis.md` - Comprehensive analysis of:

### Performance:

- [DONE] Target metrics defined
- [DONE] Design decisions documented
- [DONE] Code evidence provided
- [DONE] Test results included
- [DONE] Proof: Async processing, in-memory events, <100ms response

### Scalability:

- [DONE] Target metrics defined
- [DONE] Design decisions documented
- [DONE] Code evidence provided
- [DONE] Scaling strategy explained
- [DONE] Proof: Stateless services, pub-sub decoupling, horizontal scaling support

### Reliability:

- [DONE] Target metrics defined
- [DONE] Design decisions documented
- [DONE] Code evidence provided
- [DONE] Test scenarios included

- [DONE] Proof: Budget validation, fraud detection, error handling

## Additional Documentation

### Architecture Documents

- [DONE] docs/architecture/system-architecture.md - High-level design
- [DONE] docs/architecture/detailed-design.md - Detailed specifications
- [DONE] docs/database/schema-design.md - Database schema

### Demo Files

- [DONE] demo/ folder with working pub-sub demo
- [DONE] demo/ARCHITECTURE.md - Demo architecture
- [DONE] demo/README.md - Demo usage guide

## Deliverables Summary

#	Deliverable	Status	Location
1	Architecture Diagram	COMPLETE	docs/architecture/
2	Source Code Repo	COMPLETE	src/ + GitHub
3	README File	COMPLETE	Multiple locations
4	Project Report	COMPLETE	docs/report/technical-report.md
5	Presentation Slides	COMPLETE	docs/presentation/presentation-slides.md
6	Presentation Demo	COMPLETE	src/ (with budget tracking)
7	Three Quality Attributes	COMPLETE	docs/architecture/quality-attributes-analysis.md