

Project Deliverables Checklist

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