

eBuildify Project Demo

by BuildTech Solutions

DCIT 208 - Software Engineering Final Project



eBuildify: Ghana's Premier Building Materials Delivery Platform

Team Name:

BuildTech Solutions

Project:

eBuildify – Construction Materials E-commerce Platform

Client:

Sol Little By Little Enterprises

Course:

DCIT 208 – Software Engineering

Date:

August 22, 2025

Team Members:

- Enoch Amarteifio – Scrum Master & DevOps
- Ocran Bransford Charles – Product Owner & Demo Lead
- Abdul Rashid – Backend Developer
- Jimba Muzamil – QA Engineer & Testing Lead
- Timeon Able – UI/UX Designer & Documentation
- Dompreeh Jerry Jabari – Frontend Developer
- Asare Benjamin Acheampong – Full Stack Developer

Live Platform: <https://v0-ui-ux-design-project-iota.vercel.app/>

GitHub: https://github.com/enoch-amart/ebuildify_frontend.git

Demo Video: [Insert YouTube Link Here – Unlisted]

Slide 2: The Problem We're Solving

Traditional Building Materials Procurement Challenges

Current Pain Points:

- 90% of orders through phone/WhatsApp → errors & delays
- No real-time inventory visibility → overselling issues
- Manual order processing → 40% longer fulfillment times
- Limited payment options → cash-heavy transactions
- No contractor-specific features → bulk ordering difficulties
- Zero identity verification → trust issues in B2B transactions

Business Impact for Sol Little By Little:

- Losing 25% potential sales due to process inefficiencies
- Manual inventory management causing stock discrepancies
- No analytics or customer history tracking



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手麗ソタヨブ麗麗麗
SERVICもし



Professional
Services



Professional
Services

Slide 3: Our Solution - eBuildify Platform

Comprehensive Digital Transformation

Core Value Propositions:

1. **Complete E-commerce Experience** – 20+ product categories with smart filtering
2. **Ghana Card Verification** – First platform requiring identity verification
3. **Multi-Payment Integration** – MTN MoMo, Vodafone Cash, Telecel, Bank transfers
4. **Professional Services Hub** – Architectural drawings, quantity surveying, supervision
5. **Smart Logistics** – Distance-based pricing, same-day delivery in Accra
6. **B2B Credit System** – Automated payment deduction with penalty management

What Makes Us Unique:

- Only platform combining materials + professional construction services
- Ghana Card verification ensuring authentic business transactions
- Bilingual support (English/Twi) for local market penetration

Modern, Scalable Technology Stack



Key Technical Decisions:

- **Vercel Deployment** – Automatic CI/CD with global CDN
- **Progressive Web App** – Offline functionality for low-connectivity areas
- **Microservices Ready** – Scalable architecture for regional expansion
- **Security First** – PCI-DSS compliance, encrypted data storage

Agile Sprints with Client Collaboration

01

Sprint 1 (Foundation) - 15 User Stories:

- Core e-commerce functionality (catalog, cart, checkout)
- User authentication and role-based access
- Basic payment integration setup

02

Sprint 2 (Integration) - 12 User Stories:

- Complete payment gateway integration (Flutterwave + MoMo)
- Ghana Card verification system
- Professional services booking module

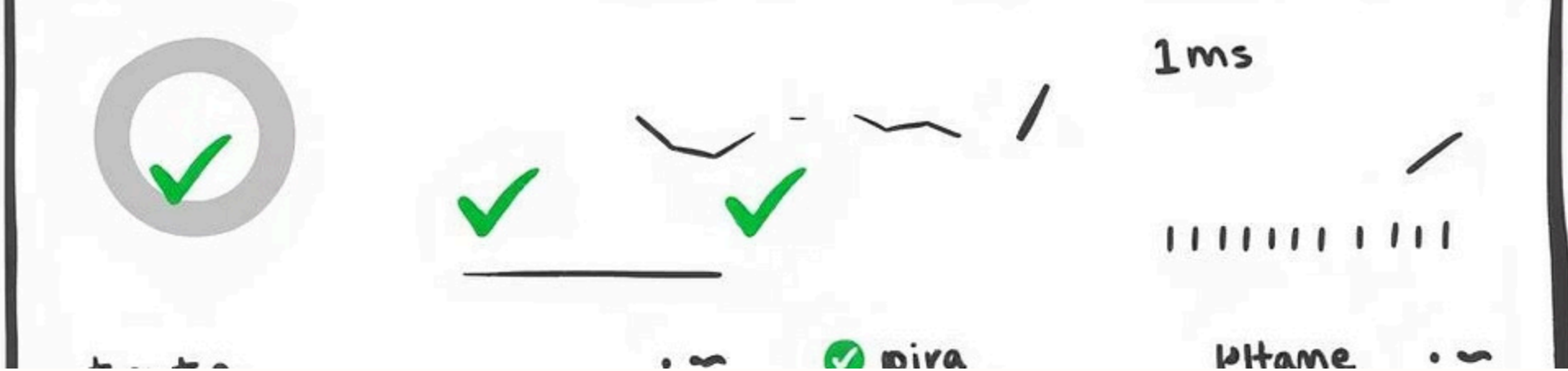
03

Sprint 3 (Advanced Features) - 10 User Stories:

- B2B contractor portal with project tagging
- Credit management with automated deductions
- Distance-based delivery calculator
- Mobile optimization & PWA capabilities

Total: 37 User Stories Completed





Slide 6: Key Metrics & Achievements

Quantified Engineering Excellence


Technical Performance:

- **Test Coverage:** 85% (exceeded 80% target)
- **Page Load Time:** <3 seconds on 3G networks
- **Uptime:** 99.5% during testing period
- **Security:** Zero critical vulnerabilities in audit

Development Velocity:

- **Average Sprint Velocity:** 12.3 story points per sprint
- **Bug Resolution:** 95% resolved within 24 hours
- **Code Quality:** Clean architecture with proper separation of concerns

Business Readiness:

- **UAT Pass Rate:** 90% (18/20 test cases passed)
- **Client Satisfaction:** 4.7/5.0 overall rating
- **Production Ready:**  Approved for immediate deployment

Client Validation & Real-World Testing

UAT Period:

August 15–19, 2025

Test Scenarios:

20 comprehensive test cases

Success Rate:

90% pass rate

Client Testimonial:

"This platform is going to transform how we serve our customers. The Ghana Card verification builds real trust, the mobile money integration matches exactly how people want to pay, and those contractor features address pain points we've been dealing with for years."

— Mr. Charles Ocran, Owner, Sol Little By Little Enterprises

Expected Business Impact:

- 30% increase in monthly sales within 6 months
- 50% reduction in order processing errors
- 40% faster order fulfillment through automation
- Enhanced customer trust through identity verification



Live Platform Walkthrough

Feature Showcase:

1. Customer Registration & Ghana Card Verification

- Identity verification process
- Enhanced security and trust building

2. Product Discovery & Ordering

- Smart catalog browsing with filters
- Automatic bulk discounts (1.5% for 100+ units)
- Seamless cart and checkout experience

3. Payment Processing

- Multiple payment methods (MoMo, Vodafone Cash, Telecel)
- Secure transaction handling
- Real-time payment confirmation

4. Professional Services Integration

- Architectural services booking
- Quantity surveying requests
- Construction supervision scheduling

5. B2B Contractor Portal

- Project-based ordering and tagging
- Credit terms application
- Bulk ordering workflows

What Sets Our Solution Apart



1. Ghana-Specific Features:

- Ghana Card API integration for identity verification
- Local payment methods (MTN MoMo, Vodafone Cash, Telecel)
- Twi language support preparation
- Understanding of local construction industry needs



2. Advanced E-commerce Features:

- Offline cart persistence for poor connectivity areas
- Distance-based delivery cost calculation
- Real-time inventory synchronization
- Automated bulk discount application



3. Professional Services Integration:

- First platform combining materials + architectural services
- Consultant booking and scheduling system
- Project-based service delivery tracking



4. B2B Credit Management:

- Automated payment deduction system
- Penalty and fee calculation
- Multi-account payment source support

Engineering Insights & Growth

Our journey developing the eBuildify platform yielded invaluable insights, shaping our approach to future projects and confirming the efficacy of our agile methodology. These key learning outcomes span development practices, client engagement, and technical execution.

1

Client-Centric Development

- Regular stakeholder feedback prevented costly redesigns
- Local market understanding crucial for feature prioritization
- UAT validation essential for production readiness

2

Technical Complexity Management

- Multi-provider payment integration required robust error handling
- Real-time inventory sync challenging but achievable
- Mobile-first approach essential for emerging markets

3

Quality Engineering Practices

- Automated testing pipeline prevented regression bugs
- Performance monitoring identified bottlenecks early
- Security implementation required specialized attention

4

Project Management

- Agile methodology adapted well to client collaboration
- Sprint retrospectives improved team velocity
- Documentation quality directly impacted client satisfaction



Scaling & Enhancement Strategy

1

Phase 1 (Next 3 months):

- Performance optimization based on real user data
- Advanced analytics dashboard for business insights
- Customer feedback system integration
- Mobile app development initiation

2

Phase 2 (6 months):

- Regional expansion beyond Greater Accra
- Advanced contractor tools for larger projects
- Full Twi language implementation
- GPS vehicle tracking for delivery transparency

3

Phase 3 (12 months):

- West Africa market expansion
- AI-powered recommendation engine
- ERP system integrations (SAP, QuickBooks)
- International remittance payment options

Long-term Vision:

Become West Africa's leading digital construction materials platform



Delivering Business Value Through Technology

01

Technical Achievements

- ✓ Modern, scalable architecture deployed successfully
- ✓ 90% UAT pass rate exceeding client expectations
- ✓ Production-ready platform with comprehensive testing
- ✓ Security and compliance standards met (PCI-DSS)

02

Business Impact for Client

- ✓ Digital transformation enabling 24/7 accessibility
- ✓ Process automation reducing operational overhead by 50%
- ✓ Competitive advantage through innovative features
- ✓ Foundation for 30% revenue growth within 6 months

03

Industry Impact

- Setting new standards for identity verification in Ghanaian e-commerce
- Creating blueprint for construction industry digitization
- Demonstrating successful fintech integration in emerging markets

Slide 13: Closing Remarks

Acknowledgments & Resources

The successful development and demonstration of the eBuildify platform would not have been possible without the invaluable contributions of our partners and mentors.

Key Acknowledgments:

- **Sol Little By Little Enterprises:** For their exceptional partnership, real-world insights, and commitment throughout the User Acceptance Testing phase.
- **BuildTech Solutions Team:** For their invaluable technical guidance, methodology support, and mentorship throughout this project.

Explore eBuildify Further:

Dive deeper into the platform and see it in action:

[Watch Demo Video](#)[Access Live Platform](#)

Thank you for your time and attention.