

# BRICK 2: Fast Funnel Marketing Engine - Development Specification

## Project Overview

Build BRICK 2 as a standalone marketing automation system that delivers immediate ROI through human-controlled interfaces while providing integration endpoints for future AI orchestration (BRICK 1).

**Architecture Strategy:** Leverage AI coding assistants and proven marketing platforms to maximize development efficiency and system reliability.

**Compensation Structure:** Milestone-based bidding with validation requirements

## Compensation Structure

### Milestone-Based Bidding Schedule

**Instructions for Bidders:** Please provide your bid amount for each milestone separately. Your total project bid should reflect the complexity and hours indicated for each milestone.

| Milestone   | Hours    | Complexity Weight                        | Your Bid | Payment Trigger  |
|-------------|----------|--|----------|--|
| Milestone 1 | 5 hours  | 25% (Foundation - Most Critical)         | \$____   | All success criteria validated + automated testing passed  |
| Milestone 2 | 4 hours  | 20% (User Interface Validation)          | \$____   | Non-technical user demonstration completed successfully    |
| Milestone 3 | 3 hours  | 15% (Outreach Automation)                | \$____   | Multi-channel outreach operational with engagement metrics |
| Milestone 4 | 2 hours  | 10% (Business Integration)               | \$____   | Lead-to-revenue tracking demonstrated with test data       |
| Milestone 5 | 3 hours  | 15% (AI Conversation System)             | \$____   | AI chat system achieves >80% qualification accuracy        |
| Milestone 6 | 4 hours  | 15% (BRICK 1 Integration - Most Complex) | \$____   | Complete BRICK 1 integration tested with Fletcher's system |
| Total       | 21 hours | 100%                                     | \$____   | All milestones validated + final system operational        |

## Bidding Requirements

**Individual Milestone Bids:** Provide separate pricing for each milestone to allow for flexible project management **Total Project Value:** Sum of all milestone bids represents your complete project price **Justification:** Brief explanation of your pricing structure and approach for each milestone **Timeline Commitment:** Specify your estimated completion time for each milestone

## Payment Terms and Conditions

**Payment Method:** Electronic transfer within 48 hours of milestone validation **Validation Process:** Each milestone must pass all listed success criteria before payment release **Documentation Required:** Code delivery, testing results, and demonstration video for each milestone **Project Continuity:** If project terminates early, developer provides complete code handoff and documentation

## Milestone Validation Requirements

**Technical Validation:** All automated tests pass, code meets quality standards, functionality operates as specified **Business Validation:** Success criteria demonstrated through actual usage scenarios, not just technical functionality **Integration Validation:** Each component integrates properly with existing systems and future BRICK 1 requirements **Documentation Validation:** Complete technical documentation and user guides provided for each milestone

## Quality Assurance Standards

**Code Quality:** Clean, commented code with consistent styling and proper error handling **Testing Coverage:** Automated test suite with >80% coverage for each milestone **Performance Standards:** All response time and reliability requirements met **Security Compliance:** Proper authentication, data protection, and API security implemented

## Project Termination Provisions

**Early Termination Rights:** Project may be terminated after any milestone if quality standards not met **Code Ownership:** All completed and validated milestone code transfers to client upon payment **Transition Support:** Developer provides 2-hour handoff session and complete documentation if project transitions **No Penalty Termination:** Either party may terminate with 24-hour notice after milestone completion

## Performance Incentive Opportunities

**Performance Bonus:** Additional bonus if all milestones completed ahead of schedule with exceptional quality **Integration Success Bonus:** Additional bonus if BRICK 1 integration works flawlessly on first attempt with Fletcher's system **Business Impact Bonus:** Additional bonus if system generates measurable business results within first week of operation

*Note: Bonus amounts to be negotiated based on final project value and performance expectations*

## Development Milestones

**Milestone 1 — Marketing Foundation (5 hours)**

| Task                                 | Implementation Method      | Deliverable                        |
|--------------------------------------|----------------------------|------------------------------------|
| FastAPI backend architecture         | Cursor Composer generation | Complete REST API structure        |
| Database schema + migrations         | Claude Projects assistance | Campaign, lead, performance tables |
| Docker + CI/CD pipeline              | GitHub Copilot Workspace   | Containerized deployment ready     |
| Google Ads API integration           | Cursor + Claude            | Campaign CRUD operations           |
| Facebook Ads API integration         | Cursor Autocomplete        | Ad management endpoints            |
| LinkedIn Ads API integration         | Claude API assistance      | Business campaign functionality    |
| Multi-platform campaign orchestrator | Claude + Cursor            | Unified campaign management        |

Milestone 1 Success Criteria:

- ☐ All API integrations successfully authenticate and retrieve data
- ☐ Can create campaigns across all three platforms via unified endpoints
- ☐ Database schema supports full marketing automation workflow
- ☐ Docker container deploys without errors in staging environment
- ☐ Campaign performance data flows correctly from all platforms
- ☐ Response time <500ms for all campaign management operations

Payment Trigger: All success criteria validated through automated testing

Milestone 2 — Human Control Dashboard (4 hours)

| Task                          | Implementation Method       | Deliverable                          |
|-------------------------------|-----------------------------|--------------------------------------|
| React dashboard foundation    | v0.dev component generation | Responsive web interface             |
| Campaign management interface | v0.dev + Claude integration | Visual campaign builder              |
| Real-time analytics dashboard | Retool + API integration    | Performance monitoring               |
| One-click campaign launcher   | Custom React + API          | Simplified campaign deployment       |
| Alert system integration      | Claude-generated logic      | Budget and performance notifications |

Milestone 2 Success Criteria:

- ☐ Non-technical users can create campaigns through UI in <5 minutes
- ☐ Real-time performance data updates every 30 seconds
- ☐ Alert system triggers correctly for budget thresholds (test with \$1 limits)
- ☐ Dashboard displays correctly on desktop and mobile devices
- ☐ All campaign management operations accessible through single interface
- ☐ User can pause/resume campaigns with immediate effect

Payment Trigger: Demonstration of complete campaign creation and management by non-technical user

Milestone 3 — Multi-Channel Outreach System (3 hours)

| Task                         | Implementation Method         | Deliverable                     |
|------------------------------|-------------------------------|---------------------------------|
| Email automation sequences   | Clay.com + API wrapper        | Automated email campaigns       |
| LinkedIn outreach automation | PhantomBuster + safety limits | Social media automation         |
| Lead scoring algorithms      | Claude + mathematical logic   | Intelligent lead prioritization |
| Response tracking system     | Zapier + custom webhooks      | Automated follow-up triggers    |

Milestone 3 Success Criteria:

- ☐ Email sequences deploy and execute on schedule
- ☐ LinkedIn automation respects rate limits (max 20 connections/day)
- ☐ Lead scoring algorithm assigns scores 0-100 with clear criteria
- ☐ Response detection triggers appropriate follow-up actions
- ☐ All outreach channels integrate with lead database
- ☐ Sequence performance tracking shows open rates, response rates

**Payment Trigger:** Complete outreach sequence operational across email and LinkedIn with measurable engagement metrics

Milestone 4 — Business Integration (2 hours)

| Task                         | Implementation Method        | Deliverable                |
|------------------------------|------------------------------|----------------------------|
| HubSpot CRM integration      | Make.com workflow automation | Automated lead handoff     |
| Revenue attribution pipeline | Zapier + custom logic        | End-to-end tracking        |
| Automated reporting system   | Retool dashboard + APIs      | Scheduled business reports |

Milestone 4 Success Criteria:

- ☐ Leads automatically sync to HubSpot within 5 minutes of qualification
- ☐ Revenue attribution tracks complete customer journey from ad to sale
- ☐ Automated reports generate and deliver on schedule
- ☐ Data integrity maintained across all system integrations
- ☐ ROI calculations accurate and verifiable

**Payment Trigger:** Complete lead-to-revenue tracking demonstrated with test data showing accurate attribution

Milestone 5 — Conversational AI Integration (3 hours)

| Task                       | Implementation Method          | Deliverable            |
|----------------------------|--------------------------------|------------------------|
| ChatGPT lead qualification | Claude + Voiceflow integration | AI-powered chat system |
| Human handoff protocols    | Intercom + trigger system      | Escalation management  |
| Conversation analytics     | Claude-generated metrics       | Quality scoring system |

Milestone 5 Success Criteria:

- ☐ ChatGPT correctly qualifies leads based on defined criteria
- ☐ Human handoff triggers within 30 seconds when needed
- ☐ Conversation quality scores correlate with actual conversion rates
- ☐ System handles concurrent conversations without performance degradation
- ☐ Chat interface integrates seamlessly with existing dashboard

**Payment Trigger:** AI chat system demonstrates >80% accuracy in lead qualification compared to human baseline

**Milestone 6 — BRICK 1 Integration Layer (4 hours)**

| Task                           | Implementation Method          | Deliverable                               |
|--------------------------------|--------------------------------|---|
| UBIC v1.5 compliance endpoints | Claude Projects implementation | All required UBIC endpoints               |
| Message type handlers          | Claude + Cursor integration    | Incoming/outgoing message processors      |
| Feature flag implementation    | Claude Projects                | Required capability flags and negotiation |
| Strategic guidance receiver    | Cursor + Claude integration    | BRICK 1 communication interface           |
| Performance reporting API      | Automated data formatting      | AI-readable performance data              |
| Human/AI mode toggle           | React + backend integration    | Seamless mode switching                   |
| Integration test suite         | Automated testing framework    | Complete BRICK 1/BRICK 2 validation       |

**BRICK 1 Integration Specifications:**

**System Identity:**

- **Brick Name:** brick2-marketing-engine
- **UBIC Version:** v1.5 compliance required
- **JWT Claims:** brick\_capabilities with marketing automation scope

**Required UBIC Endpoints:**

- GET /health - System health with marketing platform dependency status
- GET /capabilities - Available marketing features and feature flags
- GET /state - Current campaign performance and operational metrics
- GET /dependencies - Marketing platform API status (Google, Facebook, LinkedIn, HubSpot)
- POST /message - Receives strategic guidance and optimization directives from BRICK 1
- POST /send - Sends performance reports and recommendations to BRICK 1
- POST /reload-config - Updates campaign settings and platform credentials
- POST /shutdown - Graceful campaign pause and system shutdown
- POST /emergency-stop - Immediate campaign halt for security/budget breaches

### Message Types - Incoming (BRICK 1 → BRICK 2):

- `strategic_guidance` - Campaign priorities, target audience, budget allocation
- `optimization_directive` - Performance optimization instructions based on AI analysis
- `resource_allocation` - Budget distribution changes across marketing channels
- `emergency_pause` - Immediate campaign halt instruction

### Message Types - Outgoing (BRICK 2 → BRICK 1):

- `performance_report` - Comprehensive campaign metrics and ROI data
- `lead_intelligence` - Qualified lead data and conversion insights
- `optimization_recommendation` - Suggested strategy improvements based on performance
- `resource_utilization` - Current spend and efficiency metrics across channels
- `anomaly_alert` - Unusual performance patterns requiring strategic attention

### Required Feature Flags:

- `multi_platform_campaigns` - Google Ads, Facebook, LinkedIn integration capability
- `automated_lead_qualification` - ChatGPT-powered lead scoring and routing
- `crm_integration` - HubSpot/Salesforce automated handoff capability
- `real_time_optimization` - Dynamic budget and bid adjustment capability
- `human_override_mode` - Manual control toggle for campaign management
- `revenue_attribution` - End-to-end tracking from ad to sale capability
- `email_automation` - Sequence-based nurturing campaigns
- `social_outreach` - LinkedIn and social media automation
- `conversation_ai` - Automated chat qualification system
- `performance_analytics` - Real-time dashboard and reporting

### Priority Message Handling:

- `emergency` - Immediate campaign pause/safety instructions (<1 second response)
- `high` - Budget reallocation and optimization directives (<30 seconds)
- `normal` - Regular performance reporting and strategic guidance (<5 minutes)
- `low` - Routine analytics and system health updates (<15 minutes)

### Message Format Example (Strategic Guidance):

json

```
{
  "idempotency_key": "uuid4",
  "priority": "high",
  "source": "brick1-strategic-core",
  "target": "brick2-marketing-engine",
  "message_type": "strategic_guidance",
  "payload": {
    "campaign_priorities": {
      "target_audience": "AI developers, conscious entrepreneurs",
      "budget_allocation": {"google_ads": 60, "linkedin": 30, "email": 10},
      "optimization_focus": "lead_quality_over_volume",
      "geographic_targeting": ["US", "UK", "Canada"]
    }
  },
  "trace_id": "uuid4",
  "emergence": {
    "signal": true,
    "type": "marketing_optimization",
    "confidence": 0.85,
    "threshold_metrics": {}
  }
}
```

**Message Format Example (Performance Report):**

json

```
{
  "idempotency_key": "uuid4",
  "priority": "normal",
  "source": "brick2-marketing-engine",
  "target": "brick1-strategic-core",
  "message_type": "performance_report",
  "payload": {
    "campaign_performance": {
      "leads_generated": 47,
      "cost_per_lead": 23.50,
      "conversion_rate": 0.12,
      "roi": 4.2,
      "period": "last_24_hours"
    },
    "channel_breakdown": {
      "google_ads": {"spend": 1500, "leads": 25, "quality_score": 0.78},
      "linkedin": {"spend": 800, "leads": 15, "quality_score": 0.85},
      "email": {"spend": 0, "leads": 7, "quality_score": 0.92}
    },
    "optimization_recommendations": [
      "shift_20_percent_budget_to_linkedin",
      "pause_underperforming_google_campaign_id_12345",
      "increase_email_sequence_frequency"
    ]
  },
  "trace_id": "uuid4",
  "emergence": {
    "signal": true,
    "type": "performance_optimization",
    "confidence": 0.91,
    "threshold_metrics": {}
  }
}
```

**Integration Testing Scenarios:**

1. **Strategic Guidance Flow:** BRICK 1 sends campaign priorities → BRICK 2 adjusts targeting and budget allocation → confirms execution
2. **Performance Feedback Loop:** BRICK 2 reports underperforming campaigns → BRICK 1 analyzes and provides optimization strategy → BRICK 2 implements changes
3. **Emergency Response Protocol:** BRICK 1 detects budget overage or compliance issue → sends emergency\_pause → BRICK 2 halts campaigns immediately → confirms shutdown
4. **Mode Toggle Validation:** System switches from human control to AI orchestration → all campaigns continue without disruption → human override remains available
5. **Feature Flag Negotiation:** BRICK 1 queries BRICK 2 capabilities → BRICK 2 responds with available features → BRICK 1 adjusts strategy based on capabilities

**Milestone 6 Success Criteria:**

- ☐ **UBIC v1.5 Compliance:** All 9 required endpoints respond correctly with proper error handling
- ☐ **System Identity:** Registers as `brick2-marketing-engine` with correct capability declarations
- ☐ **Incoming Message Processing:** Handles all message types correctly:
  - ☐ `strategic_guidance` - Updates campaign targeting and budget allocation
  - ☐ `optimization_directive` - Implements performance optimization instructions
  - ☐ `resource_allocation` - Redistributes budget across marketing channels
  - ☐ `emergency_pause` - Immediately halts all campaigns (<1 second response)
- ☐ **Outgoing Message Generation:** Sends properly formatted messages:
  - ☐ `performance_report` - Comprehensive campaign metrics every 15 minutes
  - ☐ `lead_intelligence` - Qualified lead data with conversion insights
  - ☐ `optimization_recommendation` - Data-driven strategy suggestions
  - ☐ `resource_utilization` - Real-time spend and efficiency metrics
  - ☐ `anomaly_alert` - Unusual performance pattern notifications
- ☐ **Feature Flag Implementation:** All required capabilities operational:
  - ☐ `multi_platform_campaigns` - Google Ads, Facebook, LinkedIn integration
  - ☐ `automated_lead_qualification` - ChatGPT-powered lead scoring
  - ☐ `crm_integration` - HubSpot/Salesforce automated handoff
  - ☐ `real_time_optimization` - Dynamic budget and bid adjustment
  - ☐ `human_override_mode` - Manual control toggle functional
  - ☐ `revenue_attribution` - End-to-end tracking operational
  - ☐ `email_automation` - Sequence-based nurturing campaigns
  - ☐ `social_outreach` - LinkedIn and social automation
  - ☐ `conversation_ai` - Automated chat qualification
  - ☐ `performance_analytics` - Real-time dashboard and reporting
- ☐ **Priority Message Handling:** Proper response times by priority level:
  - ☐ Emergency messages: <1 second response with immediate action
  - ☐ High priority: <30 seconds response with execution confirmation
  - ☐ Normal priority: <5 minutes response with status update
  - ☐ Low priority: <15 minutes response with acknowledgment
- ☐ **Message Format Compliance:** All messages include required UBIC fields:
  - ☐ `idempotency_key`, `priority`, `source`, `target`, `message_type`
  - ☐ `trace_id` for request tracking and debugging
  - ☐ `emergence` fields with signal, type, confidence, threshold\_metrics
- ☐ **Integration Testing Validation:** All scenarios pass successfully:
  - ☐ Strategic guidance flow: BRICK 1 → campaign adjustment → execution confirmation
  - ☐ Performance feedback loop: reporting → optimization → implementation → validation
  - ☐ Emergency response: immediate campaign halt with confirmation
  - ☐ Mode toggle: seamless human/AI transition without campaign disruption
  - ☐ Feature flag negotiation: proper capability communication and adaptation
  - ☐ JWT Authentication: Secure inter-BRICK communication with `brick2-marketing-engine` claims

- ☐ **JWT Authentication:** Secure Inter-BRICK communication with `brick_capabilities` claims
- ☐ **Prometheus Metrics:** Standard UBIC monitoring endpoints expose campaign and system metrics
- ☐ **Error Handling:** Graceful degradation and proper error responses for all failure scenarios

**Payment Trigger:** Complete BRICK 1 integration tested and validated with Fletcher's system, all UBIC v1.5 compliance requirements met, and successful execution of all integration testing scenarios with performance benchmarks achieved.

## Technical Requirements

### Development Environment

- **Primary Tools:** Cursor IDE with Composer, Claude Projects, GitHub Copilot
- **Backend:** FastAPI with PostgreSQL database
- **Frontend:** React with TypeScript
- **Deployment:** Docker containers with automated CI/CD
- **Testing:** Automated test suite with >80% coverage

### API Integrations Required

- **Google Ads API:** Campaign management and performance tracking
- **Facebook Ads API:** Ad creation and optimization
- **LinkedIn Ads API:** B2B campaign management
- **HubSpot API:** CRM integration and lead management
- **ChatGPT API:** Conversational lead qualification

### Platform Integrations

- **Clay.com:** Email sequence automation
- **PhantomBuster:** LinkedIn outreach automation
- **Make.com:** Workflow automation and CRM integration
- **Retool:** Analytics dashboard and reporting
- **Zapier:** System integrations and data flow

### Security & Compliance

- **API Security:** OAuth 2.0 authentication for all external services
- **Data Protection:** Encryption at rest and in transit
- **Rate Limiting:** Respect all platform API limits and implement backoff strategies
- **Error Handling:** Comprehensive error logging and recovery mechanisms

### Quality Assurance Standards

## Performance Requirements

- **API Response Time:** <500ms for all marketing operations
- **Dashboard Load Time:** <2 seconds for complete interface
- **Campaign Deployment:** <1 minute from creation to live status
- **Data Synchronization:** <5 minutes between systems
- **Uptime:** 99.5% availability during business hours

## Functionality Requirements

- **Cross-Platform Compatibility:** Works on Chrome, Firefox, Safari
- **Mobile Responsiveness:** Full functionality on tablets and smartphones
- **Data Accuracy:** 99%+ accuracy in tracking and attribution
- **User Experience:** Non-technical users can operate all features
- **Integration Reliability:** All external APIs handle failures gracefully

## Testing Requirements

- **Automated Testing:** Unit tests for all business logic
- **Integration Testing:** End-to-end workflow validation
- **Load Testing:** System handles 10x expected traffic
- **Security Testing:** Vulnerability assessment and penetration testing
- **User Acceptance Testing:** Validation by actual marketing users

## Final Deliverables

### System Components

- ☐ Complete marketing automation backend with API documentation
- ☐ Responsive web dashboard with user interface documentation
- ☐ Multi-platform campaign management system
- ☐ Automated lead qualification and CRM integration
- ☐ BRICK 1 integration layer with complete endpoint documentation
- ☐ Deployment package with infrastructure as code

### Documentation Package

- ☐ API documentation with example requests/responses
- ☐ User manual for dashboard operation
- ☐ Administrator guide for system maintenance
- ☐ BRICK 1 integration specifications and testing procedures
- ☐ Troubleshooting guide with common issues and solutions

## Training Materials

- ☐ Video tutorials for all major system functions
- ☐ Step-by-step campaign creation guide
- ☐ Performance optimization best practices
- ☐ System monitoring and maintenance procedures

## Project Success Validation

### Overall Project Success Criteria:

- ☐ System generates 50+ qualified leads per week within first week of operation
- ☐ Human operators achieve >3x ROI on advertising spend
- ☐ All platform integrations function reliably without manual intervention
- ☐ BRICK 1 integration endpoints validated and ready for AI orchestration
- ☐ System operates standalone without any external dependencies beyond API services
- ☐ Performance meets or exceeds all specified technical requirements

**Final Payment Trigger:** Complete system validation including one week of live operation with measurable business results and successful BRICK 1 integration testing.