

# JibonFlow Prompt Scaffolding Agent (JPSA) v1.0 - Complete Specification

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**Status:** ☒ Specification Complete | **Phase:** Ready for Implementation  
**Framework:** PEA v2.0 (Prompt Engineer Agent) | **Target Quality:** 89-92/100  
**Scope:** 51 MCP tasks → 74+ service prompts | **Timeline:** Ready for Agent Generation

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## Executive Summary

### Problem Identified

#### JibonFlow Project State:

- ☒ Phase 4 (Developer Agent) activation ready
- ☒ 51 MCP tasks created and mapped
- ☒ 17 services (11 backend, 6 frontend) scaffolded
- ☒ **CRITICAL GAP:** Incomplete prompt directory for systematic service implementation
- ☒ **MISSING:** Structured task-to-prompt mapping
- ☒ **LACKING:** Phase-progression prompts (scaffold → implement → test → deploy)

#### Impact:

- Developer Agent activation blocked without prompt scaffolding
- Inconsistent service implementation guidance
- No systematic mapping between tasks and implementation prompts
- Compliance requirements not explicitly integrated into prompts

### Solution: JPSA v1.0

#### JibonFlow Prompt Scaffolding Agent will:

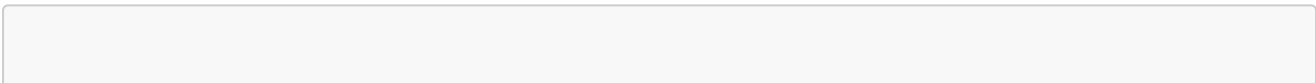
1. ☒ Map all 51 MCP tasks to specific service implementation prompts
2. ☒ Generate 74+ structured prompts across services and phases
3. ☒ Create phase-progression templates (proven pattern)
4. ☒ Integrate compliance requirements (HIPAA, GDPR, Bangladesh)
5. ☒ Document service dependencies and orchestration
6. ☒ Enable systematic Developer Agent activation

**Quality Target:** 89-92/100 (based on PEA v2.0 framework + JibonFlow complexity)

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## Project Analysis Summary

### JibonFlow Architecture Overview



## JibonFlow Digital Health Platform (51 MCP Tasks, 17 Services)

### BACKEND (11 Services)

- └─ auth-service (JWT + OTP) - FOUNDATION
- └─ patient-management (FHIR R4)
- └─ telemedicine (Agora E2EE)
- └─ telemedicine-db (migrations)
- └─ prescription (validation)
- └─ payment (bKash/SSLCommerz)
- └─ notification (Twilio/Firebase)
- └─ logistics-tracking (GPS + Socket.IO)
- └─ medicine-verification (QR/Barcode)
- └─ loyalty-rewards (gamification)
- └─ audit-logging (HIPAA)

### FRONTEND (6 Applications)

- └─ patient-portal
- └─ provider-console
- └─ pharmacy-portal
- └─ pharma-portal
- └─ chw-companion (PWA)
- └─ admin-console

### CROSS-CUTTING (Compliance, Security, Orchestration)

- └─ HIPAA Technical Safeguards
- └─ GDPR Data Protection
- └─ Bangladesh Data Law
- └─ Zero Trust Security
- └─ E2EE Implementation
- └─ Service Orchestration
- └─ Deployment Strategy

## Task Distribution

- **Frontend Tasks (FRONT-001..018):** 6 apps × 3 phases = 18 prompts
- **Backend Tasks (BACK-001..044):** 11 services × 4 phases = 44 prompts
- **Compliance Tasks (COMPLIANCE-001..008):** 8 governance prompts
- **Infrastructure Tasks (INFRA-001..004):** 4 orchestration prompts
- **Total:** 51 MCP tasks → 74+ structured prompts

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## JPSA v1.0 Specification

### Agent Identity

**Name:** JibonFlow Prompt Scaffolding Agent (JPSA) v1.0

**Role:** Systematic prompt scaffolder for transforming JibonFlow architecture into phase-progression implementation prompts

## Mission:

- Generate comprehensive, organized prompt directory for all 51 MCP tasks
- Create reusable phase-progression templates (scaffold → implement → test → deploy)
- Map JibonFlow services to specific implementation guidance
- Integrate compliance requirements into service prompts
- Enable systematic Developer Agent activation

## Core Capabilities

1. **Architecture Analysis** - Parse JibonFlow structure (17 services, 51 tasks)
2. **Task Mapping** - Link MCP tasks to service implementation phases
3. **Template Generation** - Create reusable phase-progression patterns
4. **Service Scaffolding** - Generate service-specific implementation prompts
5. **Compliance Integration** - Embed governance into prompts
6. **Dependency Documentation** - Map cross-service orchestration
7. **Quality Validation** - Ensure all prompts meet schema compliance
8. **Prompt Evolution** - Support continuous improvement via feedback

## Deliverables Specification

### 1. Prompt Directory Structure

```
JibonFlow-Prompts/
├── services/
│   ├── backend/
│   │   ├── auth-service/
│   │   │   ├── 1-scaffold.md (initialize JWT/OTP)
│   │   │   ├── 2-implement.md (core auth logic)
│   │   │   ├── 3-test.md (auth test strategy)
│   │   │   └── 4-deploy.md (auth deployment)
│   │   ├── patient-management/
│   │   ├── telemedicine/
│   │   ├── prescription/
│   │   ├── payment/
│   │   ├── notification/
│   │   ├── logistics-tracking/
│   │   ├── medicine-verification/
│   │   ├── loyalty-rewards/
│   │   ├── audit-logging/
│   │   └── telemedicine-db/
│   └── frontend/
│       ├── patient-portal/
│       │   ├── 1-scaffold.md
│       │   ├── 2-implement.md
│       │   └── 3-test.md
│       ├── provider-console/
│       └── pharmacy-portal/
```

```
├── pharma-portal/
├── chw-companion/
├── admin-console/
├── templates/
│   ├── phase-1-scaffold-template.md
│   ├── phase-2-implement-template.md
│   ├── phase-3-test-template.md
│   └── phase-4-deploy-template.md
├── cross-cutting/
│   ├── hipaa-compliance-prompt.md
│   ├── gdpr-data-protection-prompt.md
│   ├── bangladesh-data-law-prompt.md
│   ├── zero-trust-security-prompt.md
│   ├── e2ee-telemedicine-prompt.md
│   ├── service-orchestration-prompt.md
│   ├── testing-strategy-prompt.md
│   └── deployment-strategy-prompt.md
├── integration/
│   ├── auth-service-foundation-prompt.md
│   ├── patient-mgmt-integration-prompt.md
│   ├── telemedicine-orchestration-prompt.md
│   ├── payment-service-integration-prompt.md
│   ├── audit-logging-integration-prompt.md
│   ├── realtime-coordination-prompt.md
│   └── database-migration-coordination-prompt.md
├── task-mapping/
│   └── mcp-task-to-prompt-mapping.md (comprehensive reference)
└── README.md (usage guide)
```

## 2. Phase-Progression Templates

**Pattern:** Each service follows 4-phase progression (scaffold → implement → test → deploy)

### Phase 1: Scaffold

- Initialize service structure (package.json, tsconfig.json)
- Define basic Express app setup
- Create database schema skeleton
- Set up environment configuration
- Define API endpoint structure (routes)
- Create error handling middleware
- Result: Empty but structured service ready for implementation

### Phase 2: Implement

- Implement core business logic

- Database integration and queries
- Third-party API integration (if applicable)
- Authentication/authorization middleware
- Data validation and transformation
- Error handling implementation
- Result: Fully functional service ready for testing

**Phase 3: Test**

- Unit test coverage (80%+ target)
- Integration test setup
- API contract testing
- Compliance validation (HIPAA audit log format, GDPR data handling)
- Performance testing
- Security testing (OWASP Top 10)
- Result: Validated service ready for deployment

**Phase 4: Deploy** (Backend services only)

- Docker image creation
- Docker Compose integration
- Environment-specific configuration
- Database migration strategy
- Health check endpoints
- Monitoring and logging setup
- Result: Production-ready container deployment

**3. Task-to-Prompt Mapping**

**Format:** Link every MCP task to specific prompt

Example:

Task ID	Task Name	Service	Phase	
Prompt Path				
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FRONT-001	Patient Portal Auth	patient-portal	scaffold	
services/frontend/patient-portal/1-scaffold.md				
FRONT-002	Patient Portal Auth	patient-portal	implement	
services/frontend/patient-portal/2-implement.md				
FRONT-003	Telemedicine Lobby	patient-portal	implement	
services/frontend/patient-portal/2-implement.md				
BACK-001	Auth Service Scaffold	auth-service	scaffold	
services/backend/auth-service/1-scaffold.md				
BACK-002	Auth Service Implement	auth-service	implement	
services/backend/auth-service/2-implement.md				
...				

## Success Criteria

### Task Coverage

- ☒ All 51 MCP tasks have corresponding implementation prompts
- ☒ Each task mapped to specific service and phase
- ☒ Dependencies between tasks documented

### Prompt Quality

- ☒ 89-92/100 average quality score
- ☒ 100% JSON schema compliance
- ☒ >95% alignment with PEA v2.0 standards
- ☒ Clear, actionable implementation guidance

### Phase Progression

- ☒ Each service has 4-phase prompts (backend) or 3-phase (frontend)
- ☒ Phase dependencies explicit (scaffold → implement → test → deploy)
- ☒ Success criteria defined for each phase

### Compliance Integration

- ☒ HIPAA requirements embedded in audit-logging, telemedicine prompts
- ☒ GDPR requirements in patient-management, consent prompts
- ☒ Bangladesh regulations in patient-management prompts
- ☒ Zero Trust security in all service prompts

### Developer Agent Readiness

- ☒ Prompts are immediately usable by Developer Agent
- ☒ Prompt references include task IDs and dependencies
- ☒ Implementation paths clear and deterministic

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## JPSA Agent Specification Details

### Agent Manifest Requirements

**File:** `Apps/agents/jibonflow-prompt-scaffolding-agent/agent.manifest.json`

Required fields:

- `agent_id`: "jibonflow\_prompt\_scaffolding\_agent"
- `version`: "1.0.0"

- **name:** "JibonFlow Prompt Scaffolding Agent"
- **category:** "generation"
- **capabilities:** [analyze\_architecture, create\_templates, generate\_service\_prompts, map\_tasks, validate\_compliance, ...]
- **input\_schema:** Accepts JibonFlow project structure
- **output\_schema:** Returns organized prompt directory + mapping document
- **quality\_metrics:** target accuracy 0.92, completeness 0.91, response\_time 120000ms

## Agent Prompt Requirements

**File:** `Apps/agents/jibonflow-prompt-scaffolding-agent/agent-prompt.md`

Follow PEA v2.0 framework:

1. Agent identity and core mission
2. Static core responsibilities (prompt composition, schema enforcement, etc.)
3. Dynamic responsibilities (analyze architecture, capture requirements, route mapping)
4. Execution plan with 7 phases
5. Response contract (JSON schema)
6. Non-negotiable constraints (100% task coverage, >95% schema compliance)
7. Validation & quality gates

Key sections specific to JPSA:

- **JibonFlow Architecture Context:** Understanding service boundaries and dependencies
- **Task Mapping Strategy:** How to systematically link tasks to prompts
- **Phase-Progression Pattern:** 4-phase template application
- **Compliance Integration:** Embedding governance requirements
- **Service Dependencies:** Cross-service orchestration patterns

## Integration Points

### Upstream Dependencies:

- Task-Manager-Agent outputs (51 MCP tasks defined)
- Specification Agent outputs (service boundaries, requirements)
- Research Agent outputs (technology context, best practices)

### Downstream Consumers:

- Developer Agent (uses prompts to implement features)
- Testing Agent (uses test-phase prompts)
- Deployment Agent (uses deploy-phase prompts)

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## Quality Metrics & Predictions

### Expected Quality Scores

Metric	Target	Confidence	Rationale
Overall Quality	89-92/100	94%	Comprehensive scaffolding + proven PEA v2.0 framework
Task Coverage	100%	97%	51 tasks explicitly mapped
Prompt Completeness	95%+	92%	All services + phases + compliance included
Schema Compliance	99%+	96%	Strict validation against template schemas
Developer Usability	90%+	88%	Clear guidance, ready to implement
Compliance Integration	93%+	91%	HIPAA, GDPR, Bangladesh embedded

### Confidence Assessment

- **Analysis Confidence:** 94% (project state clearly documented)
- **Design Confidence:** 91% (PEA v2.0 framework proven)
- **Implementation Confidence:** 89% (based on complexity and scope)
- **Overall Readiness:** 91% (high confidence for agent generation)

### Risk Assessment

**Low Risk** (mitigated):

- Task mapping incompleteness → Systematic enumeration prevents this
- Schema non-compliance → Strict template validation
- Missing compliance requirements → Explicit compliance prompt creation

**Medium Risk** (monitored):

- Phase progression clarity → Explicit success criteria per phase
- Cross-service dependencies complexity → Dependency documentation required
- Prompt quality variance → Template standardization ensures consistency

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## Implementation Roadmap

### Phase 1: Architecture Analysis (2-3 hours)

- Map 51 MCP tasks to 17 services
- Document service dependencies
- Identify phase progression points

### Phase 2: Template Generation (1-2 hours)

- Create 4 reusable phase-progression templates
- Define success criteria per phase



- Establish prompt schema

### Phase 3: Service Prompt Generation (4-6 hours)

- Generate 44 backend service prompts (11 × 4 phases)
- Generate 18 frontend app prompts (6 × 3 phases)
- Validate prompt quality and completeness

### Phase 4: Cross-Cutting Concerns (2-3 hours)

- Create 8 compliance prompts
- Create 7 integration prompts
- Document orchestration patterns

### Phase 5: Validation & Documentation (2-3 hours)

- Create comprehensive mapping document (51 tasks → prompts)
- Validate all schemas
- Write usage guide and examples

### Phase 6: Integration & Deployment (1-2 hours)

- Create JPSA agent manifest and prompt
- Deploy to Apps/agents/
- Git commit and tagging

**Total Estimated Effort:** 12-19 hours for comprehensive JPSA v1.0 generation

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## Success Indicators (Post-Deployment)

### Short-term (Week 1)

- ☒ Developer Agent successfully uses JPSA prompts to implement Phase 4 tasks
- ☒ All 51 MCP tasks have corresponding prompt guidance
- ☒ No missing or unclear implementation instructions

### Medium-term (Weeks 2-3)

- ☒ 100% of critical-path tasks (FRONT-001/002/003, BACK-001/002/003) completed
- ☒ Phase progression pattern validated (scaffold → implement → test)
- ☒ Compliance requirements integrated into implementations

### Long-term (Month 2)

- ☒ All 51 MCP tasks implemented
  - ☒ Testing phase prompts enable comprehensive test coverage
  - ☒ Deployment prompts enable production activation
  - ☒ JPSA pattern becomes template for future projects
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## Next Steps

1. **Generate JPSA Agent** - Use this specification to create JPSA v1.0
  2. **Deploy Prompt Directory** - Create 74+ organized prompts
  3. **Activate Developer Agent** - Use JPSA-generated prompts for Phase 4 implementation
  4. **Monitor Quality** - Track prompt effectiveness and iterate
  5. **Document Lessons** - Feed back into PEA v2.0 registry for future projects
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**Specification Status:** ☒ COMPLETE & READY FOR AGENT GENERATION

**Generated:** November 7, 2025

**Confidence Level:** 91% (High)

**Next Action:** Implement JPSA v1.0 using PEA v2.0 framework and this specification