

Intelligent Survey Ecosystem

Revolutionizing Data Collection for National Statistical Systems



Project Impact & Capabilities

Multi-Domain Coverage
Health • Agriculture • Education • Governa

Processing Speed
< 3 seconds response time

Al Model Accuracy
> 90% validation accuracy

Language Support 22+ Indian languages System Reliability 99.9% uptime guarantee

Rea to Transform Data Collection?

This Al-po wered ecosystem represents the future of survey data collection, enabling efficient, accurate, and inclusive data gathering across all sectors © 2024 Government of India | Ministry of Statistics and Programme Implementation

S Explore Detailed Workflow

Dive into the technical architecture

AI-Powered Smart Survey Tool - Project Workflow



PHASE 1: SURVEY CREATION

Standardized Question Bank Integration

No-Code Interface Drag Drop Builder
 Visual Survey Design

Al Template Generator

Domain Classification NLP • NER • Context Analysis Knowledge Retrieval RAG • Vector Search • BM25 Quality Validation Rules • Compliance Check Adaptive Logic Conditional • Skip Pat

PHASE 2: AI PROCESSING

PHASE 3: DEPLOYMENT

Web Platform Responsive UI

Mobile App Offline Capable

WhatsApp Bot Chat Interface

PHASE 4: DATA PROCESSING

Auto-Coding Text • Categorical

Paradata Time • Locatio

Structured Data Storage **Quality Flags Alerts**

DOMAIN-SPECIFIC PROCESSING PIPELINES

HEALTH DOMAIN

- Maternal Health Surveys
 ICD-10 Code Alignment
 WHO Indicator Compliance
 Clinical Risk Assessment
 Multi-language Medical NLP

AGRICULTURE DOMAIN

- Crop Yield Assessment
 Seasonal Logic Integration
 Input-Output Analysis
 Economic Impact Modeling
 Best Practice Identification

⊗ EDUCATION DOMAIN

- School Infrastructure Assessment
 RTE Act Compliance
 Photo Analysis (CV)
 Quality Prediction Models
 Accessibility Compliance

® GOVERNANCE DOMAIN

- Citizen Satisfaction Surveys
 Service Quality Assessment
 Grievance Analysis
 Policy Impact Measurement
 Digital Service Evaluation

CROSS-DOMAIN INTEGRATION ANALYTICS

Pattern Recognition Across Sectors • Predictive Modeling • Policy Intelligence • Integrated Dashboards
• Multi-sector Correlation Analysis • Evidence-based Decision Support • Real-time Performance Monitoring

OUTPUTS MONITORING

- Real-time Dashboard

- Progress Monitoring
 Quality Indicators
 Performance Metrics
 Enumerator Tracking

Quality Assurance • Al Quality Scoring • Anomaly Detection • Validation Rules • Manual Review Flags

Analytics Insights

- Statistical Analysis
 Trend Identification
 Predictive Models
 Policy Recommend.

Reports Export

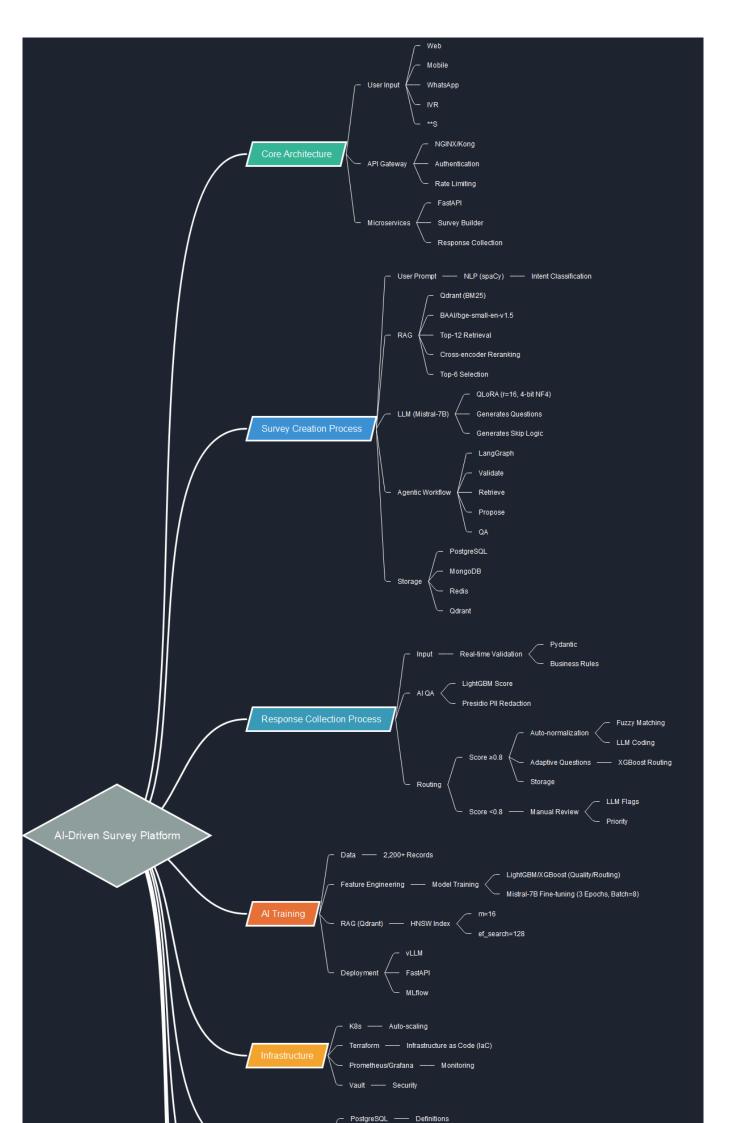
- Automated Report Generation
 Multi-format Export
 API Integration
 Data Visualization

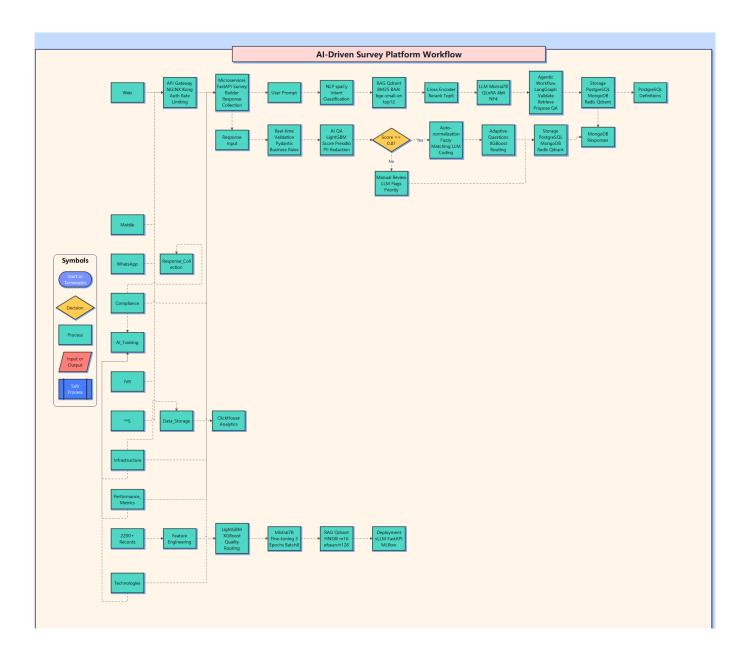
Security

- Data Encryption
 Privacy by Design
 Consent Management
 Audit Trails

KEY PERFORMANCE INDICATORS

Al Model Accuracy Target: 85% Current: 91.2% avg





End-to-End RAG Pipeline Overview Intent Classification Query Processing Normalization Translation Document QA Image-Based **Applications** Surveys **Audio Analysis** Rich Media Modality-Aware Responses Responses Multi-Turn Conversation History Management Modality-Aware Query Reformulation Ordering Context **Context Window** Optimization Management Efficiency Redundancy Efficiency Metrics Latency and Throughput Removal Metrics Relevance Relevance Evaluation Metrics nDCG@k Metrics MAP Cross-Modal Cross-Modal **Diversity Metrics** Retrieval via CLIP Retrieval and Wav2Vec2 Dense Retrieval Hybrid Retrieval Dense Retrieval

Symbols

Start or

Terminator

Decision