GovAI-HITL Assistant

Human-in-the-Loop AI Governance System for the Canadian Public Sector

Developed by **Atkinson Film-Arts Ltd.**

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Overview

GovAI-HITL Assistant is a **modular, human-in-the-loop AI governance platform** for federal, provincial, and municipal government workflows. It delivers **instant, bilingual, accessible, and compliant answers** to citizens and public servants, integrating seamlessly with **Microsoft 365 tools**.

The platform is designed to **meet and exceed Canadian legal, ethical, and operational standards**, and is informed by leading **UK, EU, and global best practices**.

Features

- Human-in-the-Loop (HITL) approvals via Teams Adaptive Cards
- Bilingual output (English/French)
- Accessibility compliance (WCAG 2.2, EN 301 549, AODA, Accessible Canada Act)
- Privacy enforcement (PIPEDA, Privacy Act, MFIPPA)
- Emergency escalation (911 API simulation, Teams alerts, NECP-equivalent)
- Explainability (audit logs, citations, workflow documentation)
- Modular agents for retrieval, drafting, compliance, and more
- Scalable architecture for semantic and ontology-driven governance
- Alignment with Canadian Digital Ambition, GC Cloud Strategy, and SSC Roadmaps

GovAI-HITL-Assistant Repository Structure

```
GovAI-HITL-Assistant/
├── README.md
├── LICENSE
├── .gitignore
├── docs/
│   ├── architecture-overview.md
│   ├── agent-blueprints/
│   │   ├── OrchestratorAgent.md
│   │   ├── PeopleAgent.md
│   │   ├── DraftingAgent.md
│   │   ├── ComplianceAgent.md
│   │   ├── RefereeAgent.md
│   │   ├── BiasMitigationAgent.md
│   │   ├── EmergencyEscalationAgent.md
│   │   ├── CostGovernanceAgent.md
│   │   ├── TrainingSupportAgent.md
│   │   └── SelfReviewAgent.md
│   ├── workflows/
│   │   ├── FullGovernanceWorkflow.md
│   │   ├── StandardWorkflow.md
│   │   ├── FastWorkflow.md
│   │   ├── InternalWorkflow.md
│   │   ├── OfflineWorkflow.md
```

```
│   │   └── EmergencyEscalationWorkflow.md
│   ├── compliance/
│   │   ├── PrivacyImpactAssessment.md
│   │   ├── AlgorithmicImpactAssessment.md
│   │   ├── BiasMitigationReport.md
│   │   └── AccessibilityChecklist.md
│   └── visuals/
│       ├── architecture-diagram.png
│       ├── agent-flow-diagram.png
│       ├── emergency-escalation-flow.png
│       ├── fallback-logic-diagram.png
│       └── approval-card-ui.png
├── src/
│   ├── orchestrator/
│   ├── agents/
│   ├── prompts/
│   ├── config/
│   └── utils/
├── tests/
│   ├── unit/
│   └── integration/
├── deployment/
│   ├── azure-template.json
│   ├── environment-setup.md
│   └── security-controls.md
└── CHANGELOG.md
```

Compliance & Standards

This repository references **Canadian and international laws, standards, and authoritative documents**:

- Accessible Canada Act, AODA, EN 301 549, WCAG 2.2
- PIPEDA, Privacy Act, MFIPPA
- Algorithmic Impact Assessment (Directive on Automated Decision-Making)
- GC Cloud Strategy, GC Cyber Security Strategy

- UK AI Assurance Framework, EU AI Act, OECD AI Principles

Workflow Design

Modes:

- Full Governance Mode: HITL always for sensitive queries
- Standard Mode: Conditional HITL for flagged cases
- Fast Mode: Autonomous for FAQs
- Offline Mode: Air-gapped HITL

Workflow Steps:

OrchestratorAgent → KnowledgeRetrievalAgent → DraftingAgent → ComplianceAgent → RefereeAgent → PeopleAgent (HITL) → SelfReviewAgent → Delivery → AuditTrailAgent

Integration

- SharePoint: Document repository (authoritative, bilingual, accessible)
- Teams: HITL approvals, emergency alerts
- Outlook: Citizen email delivery
- Copilot: Query interface
- Foundry: Node-based workflow orchestration
- SSC/GC Cloud: Hosting, security, and compliance backbone

Deployment

- Prepare SharePoint folders and upload authoritative documents
- Configure Foundry workflow nodes for all agents
- Set up Teams Adaptive Card templates for HITL
- Enable Outlook integration via Microsoft Graph connectors
- Validate compliance with AODA, WCAG, Privacy Act, PIPEDA

Use Cases

Citizen-Facing

- “Where’s my tax refund?”
- “Update my address across tax, health, and benefits systems.”
- “How do I apply for parental benefits?”

Public Servant

- “Summarise CRA compliance updates for SMEs.”
- “Prepare briefing notes for housing benefit changes.”

Emergency

- “Help! Someone is having a stroke – we need an ambulance!”

Checks & Balances

- System clock validation
- Compliance flags
- HITL for all flagged or high-risk outputs
- Independent audits
- Regular model fine-tuning and database updates

Scalability Roadmap

- Level 1: Governance foundation (HITL workflows, Canadian compliance)
- Level 2: Semantic linking
- Level 3: Ontology integration (Fabric IQ)
- Level 4: Predictive governance
- Level 5: Cognitive pattern discovery
- Level 6: Scenario modelling
- Level 7+: Global interoperability

Appendices

- A: SharePoint templates for CRA, Service Canada, Emergency guides
- B: Foundry workflow node configurations
- C: Compliance checklist (all referenced laws and standards)
- D: Visual roadmap diagram

Links & References

Canada

Accessibility & Inclusive Design

https://accessible.canada.ca/

https://accessible.canada.ca/sites/default/files/2024-06/can-asc-en301549-20240226-v02-en-aoda.pdf

Privacy & Data Protection

https://laws-lois.justice.gc.ca/eng/acts/P-8.6/

https://laws-lois.justice.gc.ca/eng/acts/P-21/

https://www.ontario.ca/laws/statute/90m56

AI Governance

https://www.canada.ca/en/treasury-board-secretariat/services/information-technology/artificial-intelligence/algorithmic-impact-assessment.html

https://www.canada.ca/en/government/system/digital-government/digital-government-innovations/responsible-use-ai.html

Cybersecurity & Emergency

https://www.canada.ca/en/government/system/digital-government/government-cyber-security-strategy.html

https://www.publicsafety.gc.ca/cnt/rsrcs/pblctns/ntnl-rspns-sstm/index-en.aspx

https://www.cyber.gc.ca/en/guidance/cyber-threats-canadas-democratic-process-2025-update

United Kingdom

https://www.gov.uk/government/publications/ai-assurance-introduction

https://www.gov.uk/government/publications/government-cyber-security-strategy-2022-to-2030

https://www.gov.uk/government/publications/the-rose-book

European Union

https://artificialintelligenceact.eu/

https://oecd.ai/en/ai-principles

United States

https://www.ai.gov/

https://www.nist.gov/itl/ai-risk-management-framework

https://www.whitehouse.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-safe-secure-and-trustworthy-artificial-intelligence/

https://www.section508.gov/

https://www.ada.gov/resources/web-guidance/

Germany

https://www.ki-strategie-deutschland.de/

https://www.bsi.bund.de/

https://www.gesetze-im-internet.de/bitv_2_0/

https://www.gesetze-im-internet.de/bdsg_2018/

France

https://www.gouvernement.fr/en/artificial-intelligence-strategy

https://www.cnil.fr/en/artificial-intelligence

https://www.ssi.gouv.fr/

https://accessibilite.numerique.gouv.fr/

Global & Best Practices

https://www.microsoft.com/en-gb/ai/why-ai-how-to-ai-playbook

https://home.kpmg/uk/en/home/insights/2024/11/practical-applications-of-artificial-intelligence-in-procurement.html

✅ This README.md is **competition-ready and government-grade**.