LLMediator

DESCRIPTION

LLMediator is an **online, multimodal LLM-based** platform that supports **mediators** and **disputed parties**. For summer 2026, the platform adds an AI powered factual investigation module so that it can act as an **active analyst of disputes** rather than only a drafting intervention message.

OBJECTIVES

1. **Chronological reconstruction of the dispute.** Automatically organize the facts submitted by both parties into a structured timeline, flagging gaps, contradictions, and overlapping claims.
2. **Proactive evidence collection.** Ask parties targeted follow up questions to fill evidentiary gaps, request supporting documents, and clarify ambiguous statements.
3. **Structured evidence inventory.** Produce a catalogue of submitted items, their relevance to specific claims, and any missing documentation.

CURRENT PROGRESS

- LLMediator is a live online dispute resolution platform with multimodal capabilities.
- Prior experiments on reframing and settlement drafting are documented in earlier LLMediator publications.

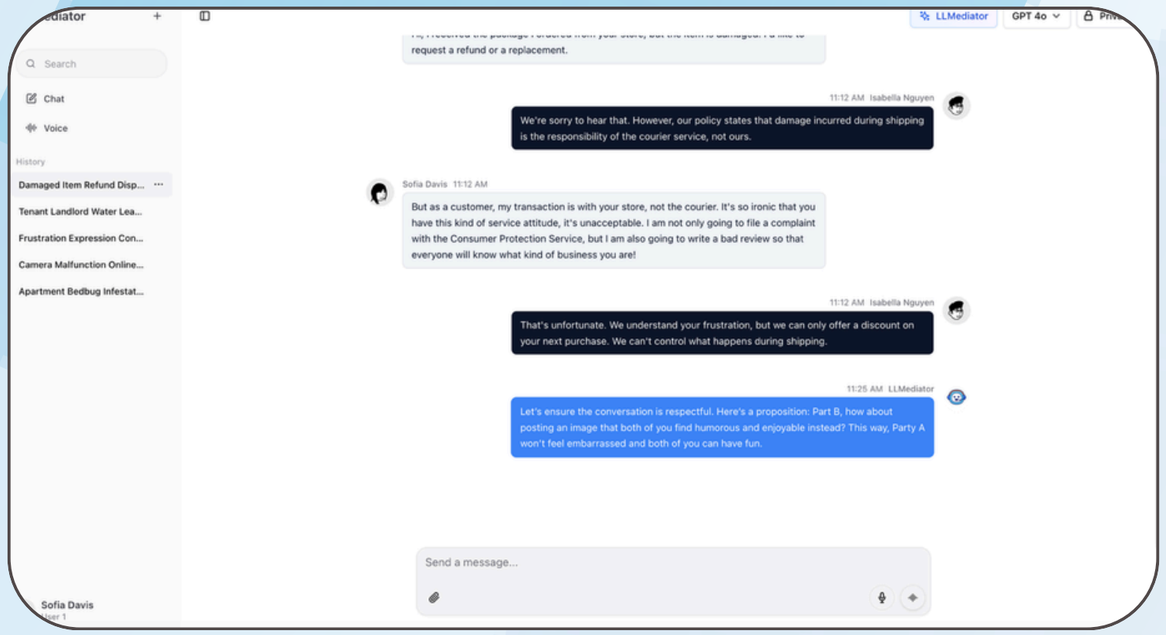
NEXT STEPS

Short term (Summer 2026)

- Build a functional prototype of the AI factual investigation module integrated into the LLMediator platform.
- Update the user interface so mediators can view dispute timelines and evidence inventories.
- Produce an internal evaluation report using simulated disputes and evidence drawn from prior research.

Long term

- Pilot the fact finding module with partner mediators on real or near real cases
- Submit a full paper to an AI and Law or HCI venue
- Extend the timeline and evidence reasoning to multilingual and cross jurisdictional settings



Website
llmediator.org

Article
Robots in the Middle:
Evaluating LLMs in Dispute Resolution

DEMO

Laboratoire de CYBERJUSTICE Laboratory

MediationAgent

DESCRIPTION

MediationAgent is a new, independent module that acts as an **autonomous shuttle mediator**. It talks to one party at a time, **gathers information, identifies interests, and explores resolution options**, then switches to the other party. Between interactions, it uses a tool suite (document drafting, information retrieval, planning, web navigation, computer use) to **prepare documents and strategy**, so parties do not have to be available at the same time and may never meet in person.

OBJECTIVES

1. **Multi turn shuttle architecture.** Design and implement a conversation management system that maintains context and strategy across sessions with each party, supported by long
2. context memory mechanisms.
   Tool integration. Equip the agent with document drafting (settlement proposals, summaries), web search for legal
3. information, calendar scheduling, and computer use for more complex tasks.
   Mediation strategy engine. Develop prompting and reasoning frameworks for identifying common ground, reframing positions, and proposing creative solutions, potentially shared with LLMediator.

CURRENT PROGRESS

- Module scoped as a new track building on Claude Code, Claude Cowork, and OpenClaw.
- Summer 2026 objective is a first end to end functional prototype.

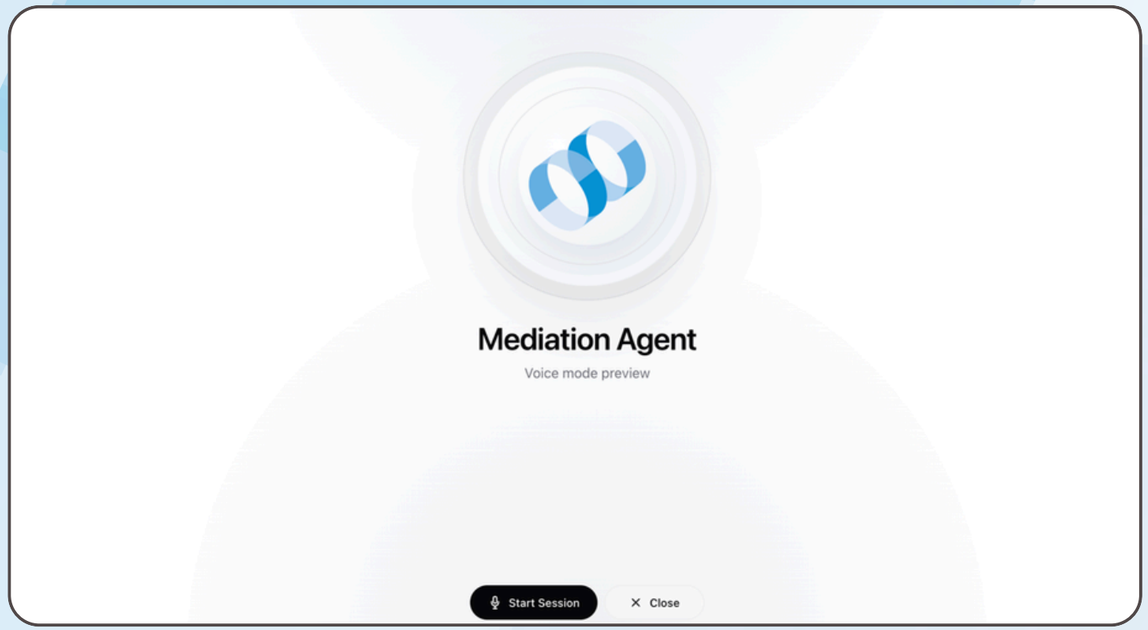
NEXT STEPS

Short term (Summer 2026)

- Deliver a working prototype demonstrating end to end shuttle mediation between two simulated parties.
- Document the agent architecture, covering tool integration, conversation management, and information flow between parties.
- Produce a demo video or interactive walkthrough for stakeholders.
- Draft a research note or short paper presenting the conceptual framework and preliminary results.

Long term

- Submit to ICAIL, JURIX, or an HCI venue
- Pilot with a partner ODR provider or with the bar



Laboratoire de CYBERJUSTICE Laboratory

JusticeBot

DESCRIPTION

JusticeBot is the Cyberjustice Laboratory's **legal information assistant** that guides members of the public through **structured legal pathways**. Summer 2026 focuses on closing two outstanding features from previous cycles and preparing the ground for the next generation of GenAI assisted pathway work.

OBJECTIVES

1. **NLP navigation integration.** Merge the NLP navigation feature previously built by Hannes and Mia, which helps users land at the relevant point in a legal pathway, into the production system.
2. **Bilingual deployment.** Ship the French and English language switch.
3. **GenAI pathway tooling.** Prototype a conversational GenAI interface for pathway selection, and a GenAI assisted tool for generating new pathway branches.

CURRENT PROGRESS

- Public deployments already housing disputes in Quebec.
- NLP navigation feature exists as a branch but has never been merged into production.
- Bilingual UX has been scoped for release this summer.

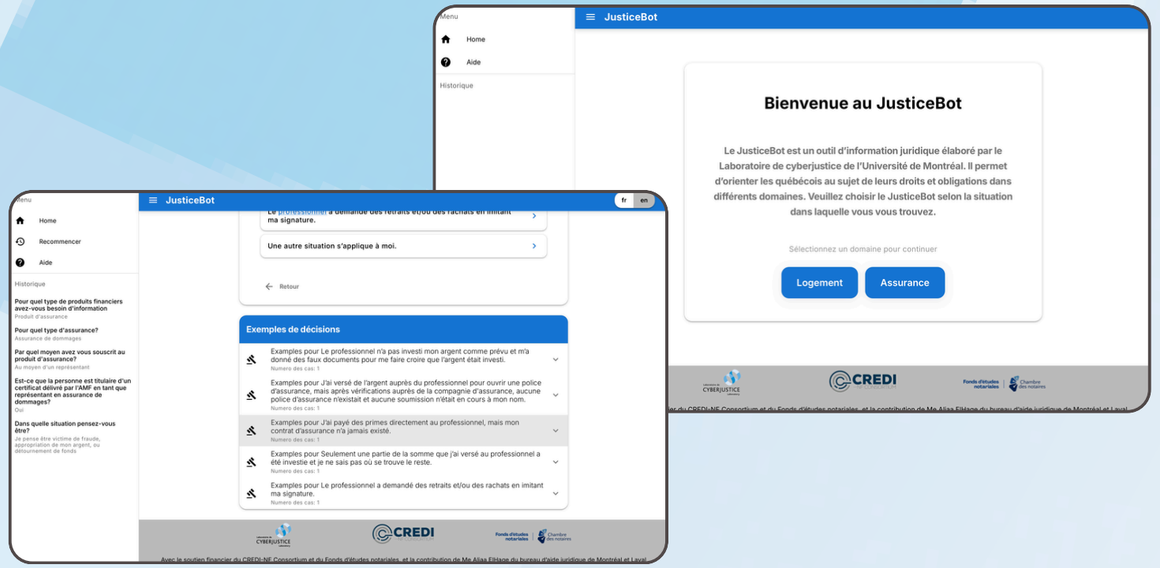
NEXT STEPS

Short term (Summer 2026)

- Clean up and organise the JusticeBot code base for future development.
- Release JusticeBot with the NLP navigation feature merged in.
- Release the bilingual (English and French) version.
- Prototype a conversational GenAI interface for pathway selection.
- Prototype a GenAI based pathway generation tool (JCAPG) with new example branches.

Long term

- Extend pathway coverage to additional legal domains and jurisdictions
- Run an empirical access to justice study using the bilingual release
- Integrate sovereign LLM components for sensitive deployments



Website
justicebot.ca

Article
JusticeBot: A Methodology for Building Augmented Intelligence Tools for Laypeople to Increase Access to Justice

In the news
Téléjournal de Radio-Canada

Laboratoire de CYBERJUSTICE Laboratory

Synthetic Image Detection

DESCRIPTION

This project studies how to **detect AI generated and manipulated images**, with a particular focus on the evidentiary implications for courts and legal practice.

OBJECTIVES

1. **Benchmark** human and AI's detection capability on modern generative models such as diffusion based image generators.
2. **Analyse** how detection results should be presented to judges, lawyers, and fact finders.
3. **Contribute** to guidelines on admitting and weighing digital image evidence.

CURRENT PROGRESS

- First empirical research has been finished.
- Contact other legal partners working in this field.

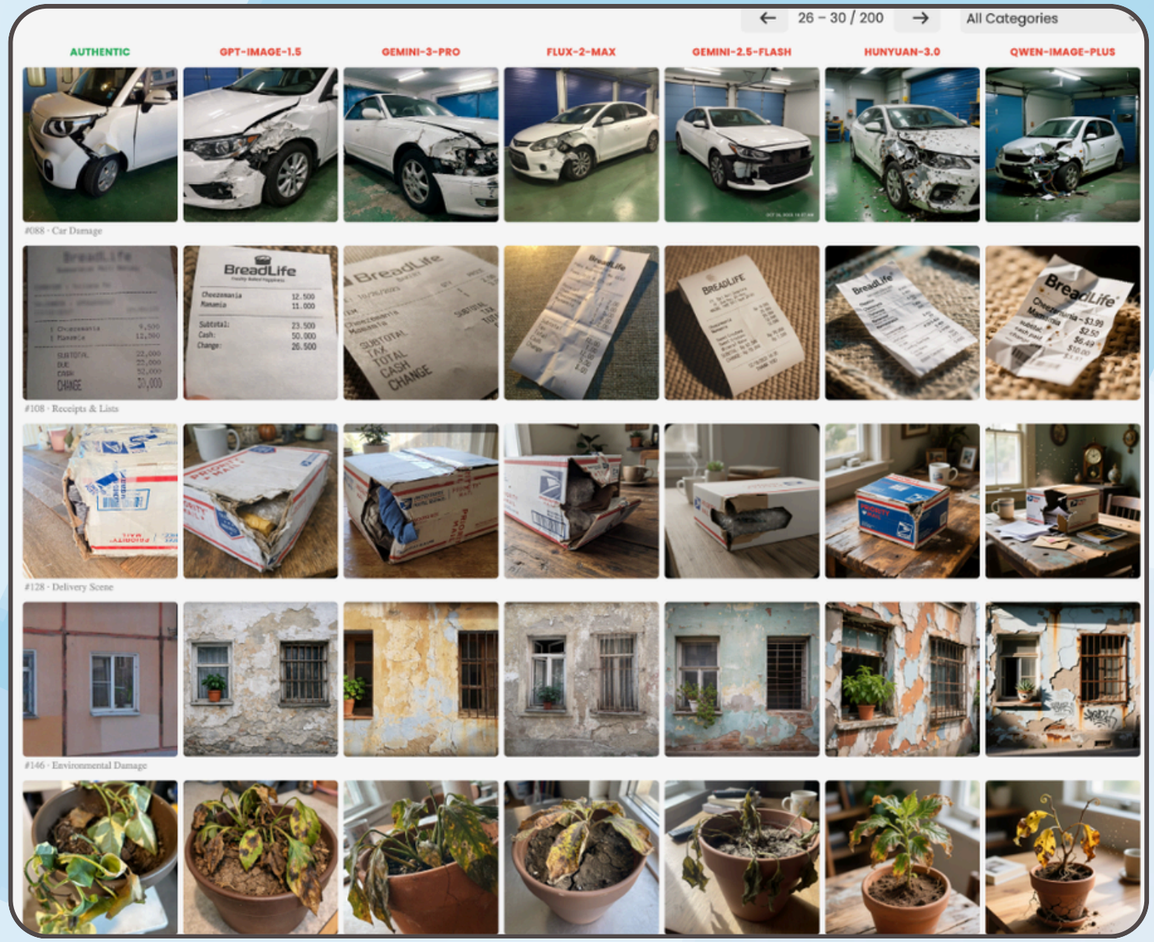
NEXT STEPS

Short term (Summer 2026)

- Finalise a first benchmarking report over the summer.
- Produce an accessible explainer for legal audiences.

Long term

- Publish a full empirical study.
- Develop a decision aid or training material for legal professionals.



Laboratoire de CYBERJUSTICE Laboratory

VIRAJ

Virtualization and Augmentation of Justice

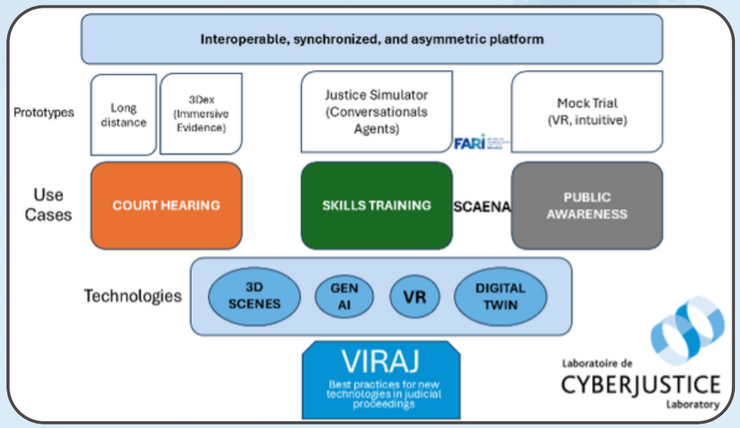
DESCRIPTION

VIRAJ is the Cyberjustice Laboratory's umbrella project on best practices for **immersive technologies in judicial processes**, and serves as the **transversal legal analysis and drafting stream** connecting the Lab's immersive prototypes to socio-legal outputs. During summer 2026, the project will continue to consolidate both its techno-legal and socio-legal foundations.

OBJECTIVES

1. **Drafting practical guidelines** structured around the main VIRAJ questions: what immersive technologies are used for, when they may be appropriate in judicial processes, and how they should be implemented and evaluated.
2. **Translate lessons learned** from the Lab's experiments into a more structured socio-legal framework, including the 3Dex line of work and the hybrid simulated trial tested through the summer school (part of SCAENA).

Website Page
cyberjustice.ca/viraj



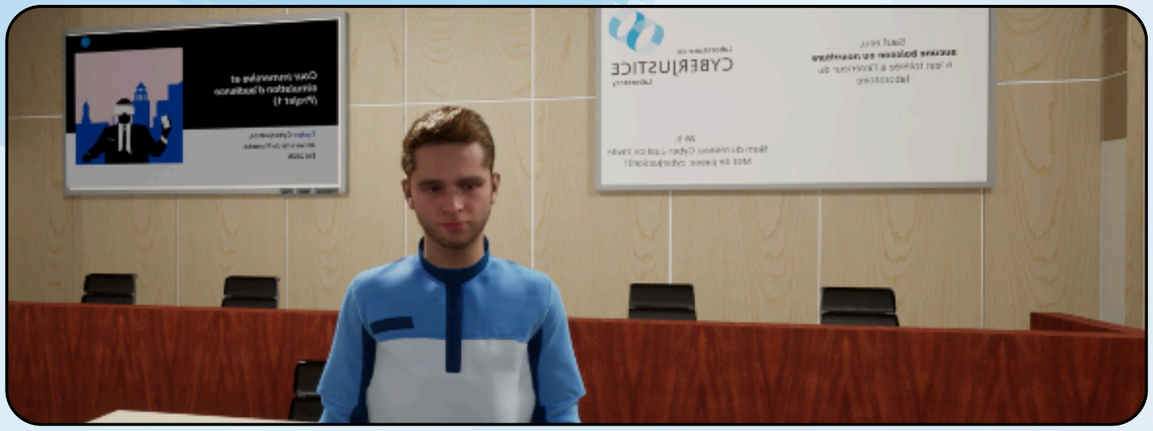
NEXT STEPS

Short term (Summer 2026)

- Update the literature review on immersive justice projects and related articles published since the May 2025 report.
- Produce a first draft of practice-oriented guidelines grounded in the first VIRAJ experiments (3Dex, Mock VR Trial).
- Document the hybrid simulated trial model and extract its main procedural and design implications.
- Seek collaborations with other research labs to expand the comparative learning process and explore future uses of the 3D courtroom infrastructure.
- Identify relevant funding opportunities and calls for proposals to support the next development and research phases of VIRAJ.
- Consolidate website page.

Long term

- Expand the guidelines into a fuller best-practices framework for immersive technologies in judicial processes.
- Publish one or more papers or posters based on VIRAJ's cross-cutting findings.
- Position VIRAJ as a reference project for socio-legal evaluation of immersive judicial technologies.



Laboratoire de CYBERJUSTICE Laboratory

SCAENA

Simulated Courtroom and Agents for Education, Navigation and Assistance

DESCRIPTION

SCAENA is the Lab's **courtroom digital twin project** within VIRAJ. Its primary goal is to **develop the 3D counterpart** of the Cyberjustice Laboratory's physical courtroom so that it can serve as a shared infrastructure for multiple immersive justice experiments.

CURRENT PROGRESS

The project is defined as a modular and versatile concept, outlining its potential applications across experimentation, training, and judicial contexts.

OBJECTIVES

1. **Develop** a modular immersive laboratory that enables flexible configurations (VR, desktop, C.A.V.E.) and adjustable AI integration to support varied experimentation settings.
2. **Support** legal education and public engagement by simulating courtroom environments, including training for trial procedures and testimony.
3. **Facilitate** real-world judicial applications, such as remote hearings and spatial evidence evaluation through immersive scene exploration.

NEXT STEPS

Short term (Summer 2026)

- Update the interoperable and cross-compatible technical infrastructure, including optimized rendering, improved avatars, and hand gesture accessibility.
- Model one external scene in order to expand the range of experiments to spatial evidence evaluation across use cases.
- Test the hybrid mock trial with spatial evidence evaluation through VR and cross-compatible desktop access during the summer school.
- Present the poster and extended abstract on the possible applications of SCAENA at the Hybrid Human AI Intelligence (HHAI) conference.

Long term

- Use SCAENA as the Lab's main digital twin infrastructure for immersive justice experimentation.
- Expand the platform to support additional experiments, display configurations, and external scenes.
- Make the 3D courtroom and its underlying infrastructure available to other research teams for interdisciplinary experimentation.
- Use the accumulated experiments to support future publications and the broader VIRAJ guidelines framework.

Laboratoire de
CYBERJUSTICE
Laboratory

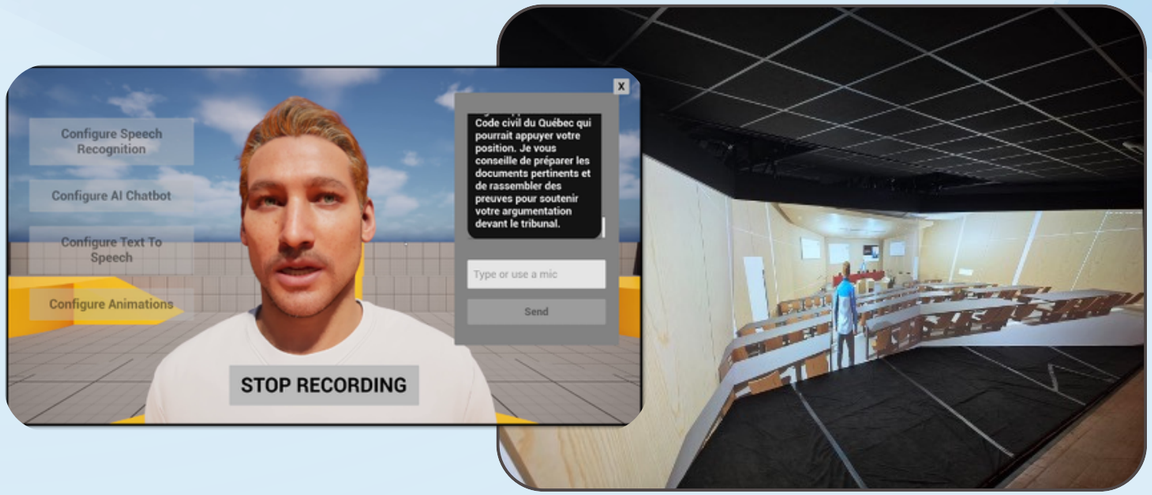
Justice Simulator

DESCRIPTION

Justice Simulator is the **conceptual AI-enabled extension of SCAENA**. Its purpose is to explore how generative AI could eventually support **simulated judicial interaction for legal training** and related research purposes within the courtroom digital twin.

OBJECTIVES

1. **Clarify** the pedagogical goals, architectural options, and legal-technical conditions of an immersive simulator.
2. **Examine** issues of AI sovereignty, including grounding in legal materials and the feasibility of relying on local infrastructure rather than proprietary external models (e.g., OpenAI, ElevenLabs, Google Gemini).
3. **Build** on the Lab's broader work on generative AI for justice, particularly LLMediator, to inform future choices regarding LLM use, orchestration, and grounding



CURRENT PROGRESS

The project remains primarily conceptual, focusing on defining its scope and foundational parameters rather than immediate development.

NEXT STEPS

Short term (Summer 2026)

- Sketch the conceptual model of the simulator, including its goals, architecture, and possible RAG component.
- Review whether similar projects already exist and identify relevant benchmarks.
- Discuss the concept with data scientists and technical partners at FARI and ULB.
- Study the possibility of relying on ULB's supercalculator infrastructure instead of OpenAI-based deployment.
- Draft an internal note on the concept, its technical feasibility, sovereignty implications, and possible next steps.

Long term

- Decide whether Justice Simulator should move from concept exploration to actual development as a module within SCAENA.
  - If feasible, define a first realistic implementation pathway for limited use cases.
- Assess the relevance of future testing with law students and early-career legal professionals.
- Use the conceptual work as the basis for a future paper, poster, or funding application.

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