

Legal Infrastructure for AI Agent Transactions

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"I am passionate about enhancing productivity and creativity with generative AI. At law/MIT.edu, I lead research and publishing endeavors to explore AI's applications in the legal sector. Through my consultancy, Civics.Com, I have trained thousands of lawyers and other professionals on the use of generative AI and directly assist companies in adopting AI to refine their processes and innovate their products, services, and business models."



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Legal Dimensions of Agentic AI



Agentic AI

My Background

1999

http://www.civics.com/content/agents/eta_rpt.htm Go JUL JUN AUG
32 captures 13 2001 2002 2003 About this capture

MEMORANDUM

To: Uniform Electronic Transactions Act Drafting Committee;
Professor Patricia B. Fry, Chair and Professor Benjamin Beard, Reporter

From: ABA Section of Business Law, Cyberpace Law Committee Electronic Commerce Subcommittee Working Group on Electronic Contracting Practices Co-Chairs: Daniel Greenwood (dan@civics.com) and John Muller (jmueller@brobeck.com) (fnl)

Date: February 16, 1999

Subject: Preliminary Draft Report on UETA Legal Treatment of Electronic Agents

1. Introduction

This document is a revised draft (fnl) of the initial proceedings of the Electronic Contracting Practices Working Group at the American Bar Association's Law Committee meeting in Atlanta January 15-16, 1999. The Working Group is focusing its efforts on a survey of legal issues arising from the deployment of electronic agents for business purposes, including considerations of commercial, agency, intellectual property and tort law. As part of this survey, the Working Groups is monitoring and commenting upon developments in UCC Articles 2, 2B and the UETA with respect to Electronic Agents. An initial rough draft of this document was presented on January 16th to Benjamin Beard, UETA Reporter, who has subsequently requested a more formal submission for consideration by the UETA drafting committee in time for the upcoming February 19-21, 1999 drafting Committee meeting in Richmond, VA.

This document first explores the definition currently used in the UETA for Electronic Agent, and then examines the core operative legal rule in the current and immediately prior draft of the UETA, along with a tentative proposed rule developed by the Working Group at the Atlanta meeting. Next, the extent to which operations of an electronic agent could be attributed to the user will be discussed by a quick analysis of the possibility of developing different operative rules for tool-like vs. intelligent electronic agents (or, possibly, simply limiting application of the UETA to non-intelligent systems). Clearly, other sections of the UETA as well as other NCCUSL draft products also deal with use of electronic agents, however, at this time the Working Group has limited comments to the provisions noted due to the preliminary nature of this draft.

2. UETA Definitions

January 29, 1999 UETA definition of electronic agent (Section 102(8)):

"Electronic agent" means a computer program, electronic, or other automated means used to initiate or respond to electronic records or performances in whole or in part without review by an individual.

Working Group commentary: The emphasis in the definition on review by an individual may call for clarification that review occurring at any point after completion of the record or performance does not cause a program to fall outside this definition.

law.MIT.edu
Computational Law Research and Development at MIT

Automated Credit Union for Digital Assets
June 8, 2016

2016-06-28 UPDATE: Today, MIT/law published a short video project overview of the Automated Credit Union Prototype open source project. The video is embedded below:

MIT/law Automated Credit Union Prototype

An error occurred. Please try again later. (Playback ID: 8f9px0xw4c9enr) Learn More

MIT/law launched the Automated Credit Union Prototype Project today (June 8, 2016) in Washington, DC at the Georgetown University Law Center. The approach for this exploratory research and development project will be an open source, participatory and collaborative. The key intent is to build a prototype that can test whether an automated, federally chartered Credit Union would be well suited to provide member services for personal data and individual identity. Key postulates are that the existing US Credit Union legal/regulatory rules, marketplace rules and societal/cultural context would require no material changes to exist as automated entities or to provide data and identity services.

2011

YOU ARE CURRENTLY BROWSING THE CORPBOOTS CATEGORY

CORPBOOTS SEEK ROBO-FRIENDLY FUNDING
June 1st, 2011 Filed under Corpbot No Comments



Greetings everyone! For all of those who came out to our New and Emerging Legal Infrastructures Conference in April, thank you. We had an extraordinary turnout of lawyers, technologists, and other good folks — and we're still buzzing over here at headquarters about some of the tremendously exciting cross-disciplinary discussions that emerged during the panels.

In the intervening month of May, the partners over here at Robot, Robot & Hwang have been sifting through a variety of different project ideas and trying to figure out what we'll be doing as we move into the summer months out here in the Bay Area. In partnership with our collaborator Dazza Greenwood (this corresponding cross-post here) the senior partners have settled on a direction and glad to say we can go public with what we've been scheming about.

Glad to announce today that we're officially looking for funding to pursue the deployment of the **Corpbot Project**, a flexible, open-source toolkit for developers to easily program *autonomous corporations*.

What is an autonomous corporation you might ask? We've been thinking for some time it'd be amazing

2016

[View on GitHub](#) 

AALE
Automated and Autonomous Legal Entities

2019

AALE: Automated and Autonomous Legal Entities

This site is an MIT Legal Engineering open, collaborative research project to gather a list of automated and autonomous legal entity examples (eg corporations, LLCs, non-profits, etc). We are seeking to compile a list of any such products and projects, including web-based, blockchain-based, and enterprise implementations. This research may be part of an upcoming publication of the [MIT Computational Legal Report](#) and may form part of an upcoming summit of people leading such projects planned for April, 2020 at Stanford.

Agentic AI is Here and On the Rise

Agent Database by Agency | AgentOps.ai

File Edit View Insert Format Data Tools Extensions Help

Share

A1 Powered by Agency AI

| Powered by Agency AI | | Submit an Agent Join Exclusive Agent Group | | GitHub | |
|----------------------|------------|---|--|-----------|------------------------|
| 1 | Agent Name | Website | Description | Category | Open S |
| 3 | AgentOps | https://agents.staf.ai/AgentOps | Build your next agent with graphs, monitoring, and replay analytics. Tools to... | Analytics | Open S |
| 4 | Nelima | https://sellagen.com/nelima | Nelima is designed for taking actions on your behalf with natural language... | Assistant | Open S |
| 5 | Adala | https://humansignal.github.io/Adala/ | Adala is an Autonomous DAta (Labeling) Agent framework. | Gener... | Open S |
| 6 | Agent4Rec | https://arxiv.org/abs/2310.10108 | A recommender system simulator with 1,000 LLM-empowered generative a... | DIY/B... | Open S |
| 7 | AgentForge | https://www.agentforge.net/ | A low-code framework designed for the swift creation, testing, and iteration... | DIY/B... | Open S |
| 8 | AgentGPT | https://agentgpt.reworkd.ai/ | Assemble, configure, and deploy autonomous AI Agents in your browser. | Gener... | Open S |
| 9 | AgentPilot | https://agentpilot.ai/ | Integrated into Open Interpreter and MemGPT | Gener... | Open S |
| 10 | Agents | https://agents-readthedocs.readthedocs.io/en/latest/ | A systematic framework for training language agents, which is inspired by t... | Gener... | Open S |
| 11 | AgentVerse | https://www.openbmb.cn/home | Designed to facilitate the deployment of multiple LLM-based agents in variou... | DIY/B... | Open S |
| 12 | AI Legion | https://gpt3demo.com/apps/ai-legion | An LLM-powered autonomous agent platform | DIY/B... | Open S |
| 13 | Aider | https://aider.chat/ | A command line tool that lets you pair program with GPT-3.5/GPT-4, to edit... | Coding | Open S |
| 14 | Allice | https://app.myshell.ai/explore | A fully autonomous, general-purpose AI agent. This project aims to create a... | Produ... | Open S |
| 15 | AutoGen | https://microsoft.github.io/autogen/ | Enable Next-Gen Large Language Model Applications. | DIY/B... | Open S |
| 16 | AutoGPT | https://news.agpt.co/ | Working Towards an Open Source AI Assistant Available To Everyone | Gener... | Open S |

Example list of 450+ Agentic AI Companies and Products

Legislative Hearings

Agentic AI for Algorithmic Decisions and Transactional Law

- Hearing 1: July 2, 2024
- Hearing 2: September 16, 2024

Testimony on Agentic AI Systems and Automated Decision Making

Testimony to the Wyoming Select Committee (joint House/Senate) Covering "Digital Innovation Technology"



DAZZA GREENWOOD
JUL 02, 2024



Share

...

Yesterday I testified again to a Select Committee of the Wyoming legislature, led by Co-Chairs Senator Rothfuss and Representative Western, on the topic of automated decision making technology in the context of generative AI. We delved into the use of large language models as “agents” who can operate and even conduct transactions on behalf of individuals and organizations. I’m delighted to say this topic will continue to be explored through one of the Select Committees informal drafting groups, resulting in a deeper discussion and perhaps draft legislation at their next hearing this coming autumn.

The testimony can be found [here](#), and is embedded below.

A screenshot of a video testimonial. At the top right, there is a small profile picture of a man and the text "Testimony of Dazza Greenwood on Agentic AI Systems to the Wyomin...". To the right of this, there is a "Copy link" button with a QR code icon. The main video frame shows a man with a beard and a flat cap, wearing a maroon hoodie, sitting in front of a window with a view of greenery. A red YouTube play button icon is overlaid on the bottom right of the video frame. At the bottom of the screen, there is a black bar with the text "Watch on YouTube" and a partially visible quote: "But as I mentioned earlier, I think the current approach". The "zoom" logo is in the bottom right corner of the video frame.

CodeX Research: Contracts & Terms Review

- Stanford CodeX/HAI/DEL Agent Legal Frameworks
- Agent Protocols / OpenWeb Paradigm
- Modular/Interoperable Agents - Gen Spring
- Autonomous Orgs and New EcoArchitecture



MAJOR RISKS

What Could Possibly
Go Wrong?

UPDATED TO COVER NEW REVELATIONS

NICK WALLIS

THE GREAT POST OFFICE SCANDAL

The fight to expose a multimillion
pound IT disaster which put innocent
people in jail



*"An extraordinary journalistic exposé
of a huge miscarriage of justice."*

IAN HISLOP

Perhaps this
technology is
so useful, the
main risk is
over reliance
upon it.

The Harbingers of Liability are Upon Us

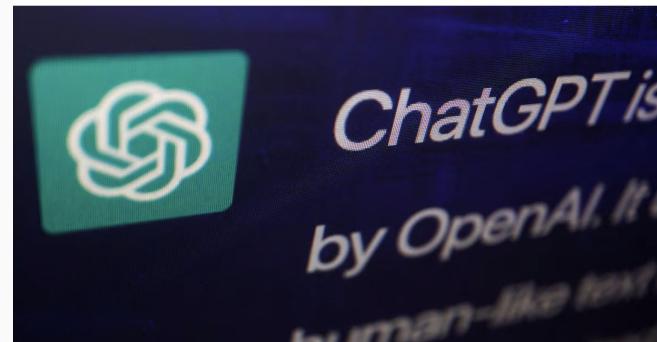
POP CULTURE

Prankster tricks a GM chatbot into agreeing to sell him a \$76,000 Chevy Tahoe for \$1

Maybe the AI revolution has an upside?

By Tod Perry, Upworthy Staff

03.16.24



Reuters

World ▾ Business ▾ Markets ▾ More ▾



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My View

Following

Saved

Disrupted

New York lawyers sanctioned for using fake ChatGPT cases in legal brief

By Sara Merken

June 26, 2023 3:28 AM CDT · Updated a year ago



Aa



WIRED

SECURITY POLITICS GEAR MORE ▾

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Air Canada Has to Honor a Refund Policy Its Chatbot Made Up

The airline tried to argue that it shouldn't be liable for anything its chatbot says.



Let's Get More Specific About Risks

NIST.AI 600-1 (April, 2024)

- CBRN Information (chem, bio, nuclear)
- Confabulation
- Dangerous or Violent Recommendations
- Data Privacy
- Environmental
- Human-AI Configuration:
(transparency, explainability)
- Information Integrity (deep fakes)
- Information Security
- Intellectual Property
- Obscene, Degrading, and/or Abusive Content
- Toxicity, Bias, and Homogenization
- Value Chain and Component Integration

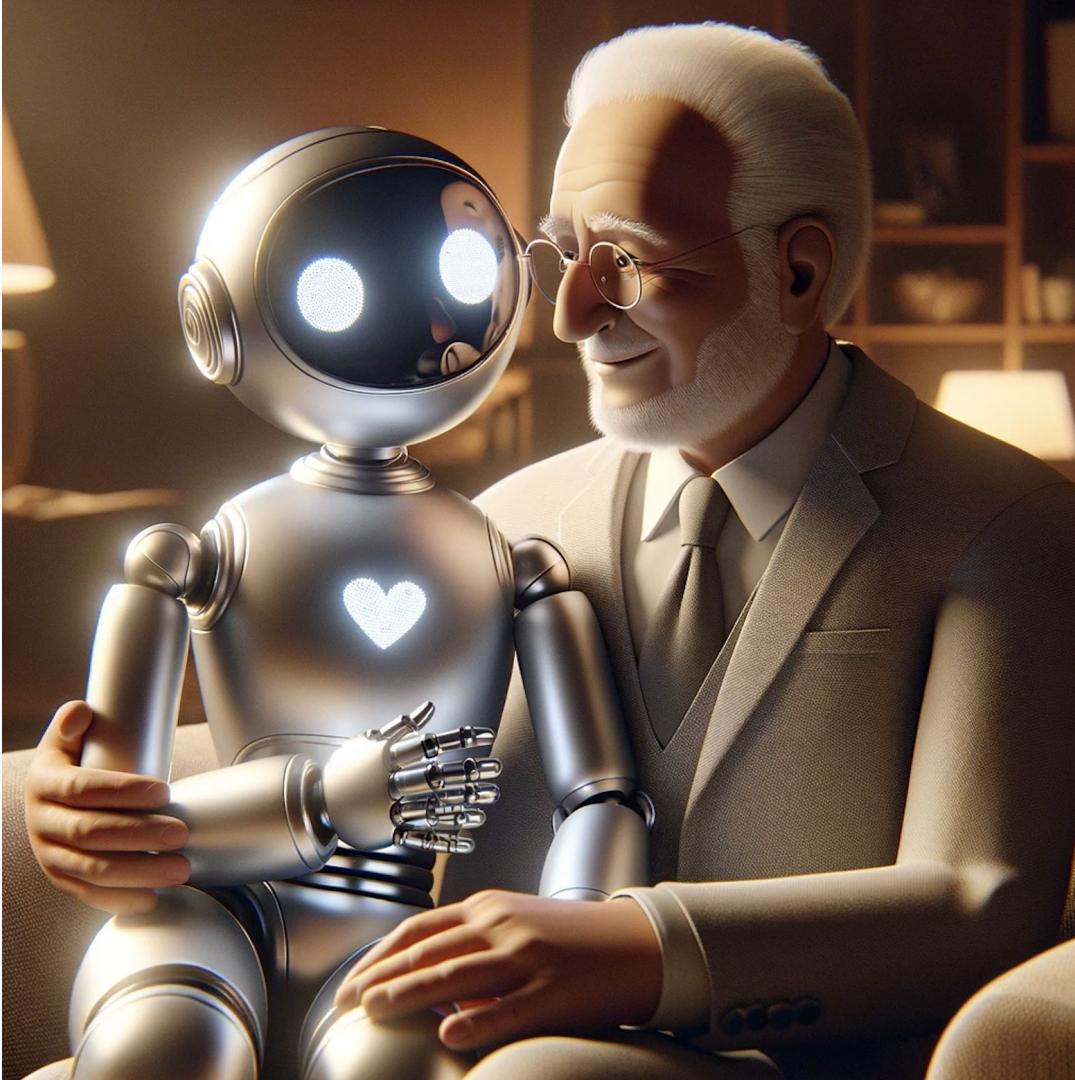
Peter Drucker *on risk*

The risk one must accept,
the risk that is built into the
nature of the business.

The risk one can afford to
take.

The risk one cannot afford
to take.

The risk one cannot afford
not to take.



Compliance Implication for Lawyers Using GenAI

Computational Law

@ law.MIT.edu

law.MIT.edu

Task Force on Responsible Use
of Generative AI for Law



The State Bar
of California



Electronic Agents and Agentic AI



Old-World: High frequency trading relies on electronic agents. These are electronic agents conducting automated transactions, to be sure. Same with a lot of supply chains. Same with payment networks and many other systems.

What's different now?

With generative AI, agentic systems can do something like "think" for themselves. Therefore, they can start to address "in-the-wild" interaction environments. This new capability is perfectly matched to address many of the most intractable challenges to prior electronic agent systems and opens up a lot of single-party, ecommerce, business-to-business, and other contexts.

What are Agentic AI Systems?



- ***Can adaptably achieve complex goals in complex environments with limited direct supervision***
- Are characterized by high degrees of:
 - **Goal complexity:** Ability to achieve challenging and wide-ranging goals
 - **Environmental complexity:** Ability to achieve goals under a wide range of complex environments
 - **Adaptability:** Ability to adapt and react to novel or unexpected circumstances
 - **Independent execution:** Ability to reliably achieve goals with limited (or no) human intervention

Demystifying the Nuts and Bolts

Design Patterns

- Chain of Agents
- Master / worker
- Hierarchical teams
- Collaborative teams
- Facilitator / mediator

Mechanics

- Plan → Execute
- Hand-Off
- Routing
- Tool Use
- Shared context / memory

Task & Project Applications

Example Agentic AI Systems: Software Developer

Meet Devin, World's First AI Software Engineer; It Can Code Almost Everything

The screenshot shows the Devin software interface. At the top, there's a large logo consisting of blue and green hexagonal blocks forming a stylized 'D' shape, followed by the word "Devin". Below the logo is a dark-themed workspace. On the left, a sidebar has a "Devin's Workspace" section with a message from Devin: "Hey Scott, absolutely! I'll ensure that all the model names used in the benchmarking script are for Llama 2 70b. I've already updated the Replicate model ID with the one you provided. I'll double-check the model names for Together and Perplexity to make sure they're correct and update them if necessary. I'm currently troubleshooting an issue with the script and will proceed with the testing as soon as it's resolved. Thanks for the reminder!" Below this is a "Chat Completions" section showing a conversation between Devin and the user. In the center, there's a code editor window titled "benchmark.py" with the following code:

```
default
Command 'python' not found, did you mean:
  command 'python3' from deb python3
  command 'python' from deb python-is-python3
Errors: 1
Traceback (most recent call last):
  File "/home/ubuntu/benchmark.py", line 65, in <module>
    together_tps = benchmark_api(TOGETHER_ENDPOINT, TOGETHER_HEADERS, together_d
ata)
  File "/home/ubuntu/benchmark.py", line 39, in benchmark_api
    tokens = len(response.json()["choices"][0]["text"].split())
KeyError: 'text'
ubuntu@ip-172-31-27-196:~$ ...
```

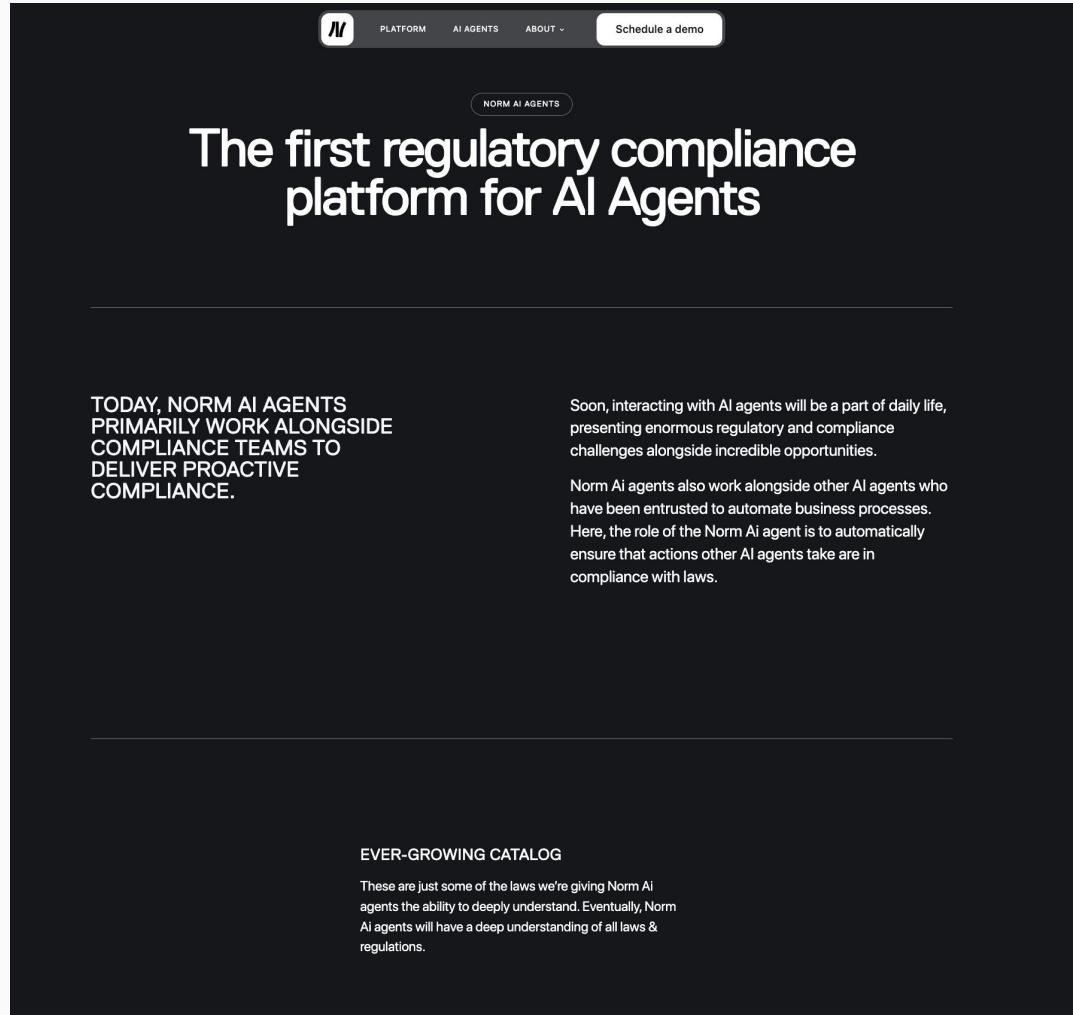
On the right, there's a terminal window showing the same error message. At the bottom of the screen, a status bar indicates "Devin is in private beta and may make mistakes."

Example Agentic AI Systems: Software Developers

The collage consists of four screenshots:

- GPT Engineer:** A dark-themed AI interface for building websites and web apps. It features a sidebar with AI-generated suggestions for tasks like "Create initial draft" and "Enhance website design". The main area shows a preview of a "Powerful Features" page.
- The AI Code Editor:** A screenshot of the Cursor AI Code Editor. It shows a code editor with Java code for TransportStackBuilder, a "Download for Free" button, and a "Watch Demo 1 Minute" button.
- Replit Agent:** A screenshot of the Replit Agent interface. It features a video player showing a man introducing the agent, followed by three numbered steps: "Craft the perfect plan", "Keep tabs on progress", and "Test and deploy".
- Cursor AI Code Editor (continued):** A continuation of the code editor screenshot from the top right. It shows a code editor with Java code for TransportStackBuilder and Listener instances, and a "See Cursor In Action" button.

Example Agentic AI Systems: Compliance Officer



The screenshot shows the homepage of the Norm AI Agents website. At the top right, there is a navigation bar with a logo, 'PLATFORM', 'AI AGENTS', 'ABOUT', and a 'Schedule a demo' button. Below the navigation bar, a circular button labeled 'NORM AI AGENTS' is visible. The main headline reads 'The first regulatory compliance platform for AI Agents'. Below the headline, there are two columns of text. The left column says: 'TODAY, NORM AI AGENTS PRIMARILY WORK ALONGSIDE COMPLIANCE TEAMS TO DELIVER PROACTIVE COMPLIANCE.' The right column says: 'Soon, interacting with AI agents will be a part of daily life, presenting enormous regulatory and compliance challenges alongside incredible opportunities. Norm Ai agents also work alongside other AI agents who have been entrusted to automate business processes. Here, the role of the Norm Ai agent is to automatically ensure that actions other AI agents take are in compliance with laws.' At the bottom, there is a section titled 'EVER-GROWING CATALOG' with a paragraph of text.

NORM AI AGENTS

The first regulatory compliance platform for AI Agents

TODAY, NORM AI AGENTS PRIMARILY WORK ALONGSIDE COMPLIANCE TEAMS TO DELIVER PROACTIVE COMPLIANCE.

Soon, interacting with AI agents will be a part of daily life, presenting enormous regulatory and compliance challenges alongside incredible opportunities. Norm Ai agents also work alongside other AI agents who have been entrusted to automate business processes. Here, the role of the Norm Ai agent is to automatically ensure that actions other AI agents take are in compliance with laws.

EVER-GROWING CATALOG

These are just some of the laws we're giving Norm Ai agents the ability to deeply understand. Eventually, Norm Ai agents will have a deep understanding of all laws & regulations.

Example Agentic AI Systems: Legal Associate

The screenshot shows the Spellbook Associate website. At the top right is the logo "Spellbook Associate" with a blue diamond icon. Below it is a button labeled "Read Announcement →". The main title "Meet the First AI Associate" is centered in large white text. A subtext below it reads: "Spellbook Associate is the first AI agent that can work through multi-document legal matters, with your oversight." A purple button at the bottom left of the main section says "Get Early Access →". In the center, there's a white rectangular callout box containing a list of tasks with checkmarks and document icons. A play button icon is overlaid on the list. At the bottom of the page, a dark footer bar contains the text "2,500+ law firms & in-house teams trust Spellbook".

Read Announcement →

Meet the First AI Associate

Spellbook Associate is the first AI agent that can work through multi-document legal matters, with your oversight.

Get Early Access →

- Review Term Sheet
TermSheet.docx
- Clarify missing terms
- Edit Investor Rights Agreement
IRA.docx
- Edit Voting Agreement
VA.docx
- Edit Share Purchase Agreement
SPA.docx
- Review work for inconsistencies

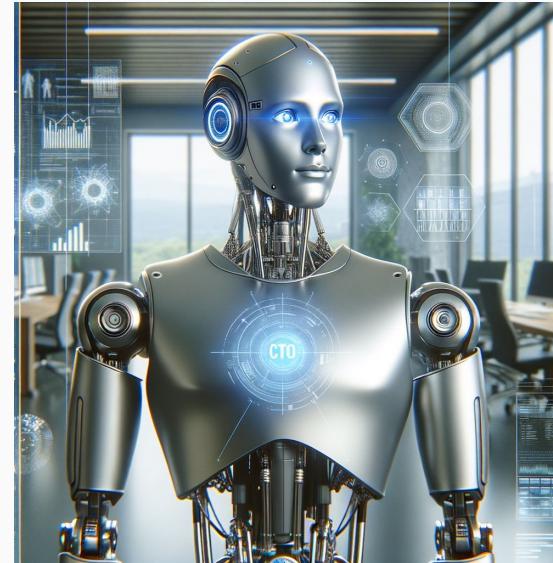
2,500+ law firms & in-house teams trust Spellbook

Hybrid Team of Gen AI Agents

Legal Agent



Technical Agent



Hybrid Team of Gen AI Agents

Legal Agent



Business Agent



Hybrid Team of Gen AI Agents

Business Agent



Legal Agent



Technical Agent



Goal to Deliverables: The Agento Prototype of Self-Assembling BLT Project Teams

Release Notes: 1.93.0

app.py > ...

Dazza Greenwood, 5 days ago | author (Dazza Greenwood)

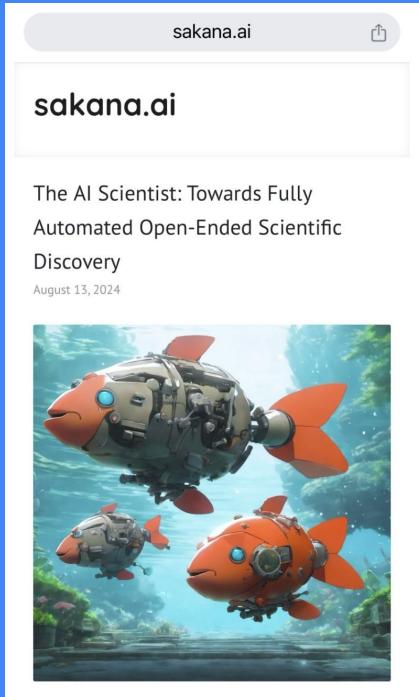
```
1 # To run this go to terminal and run: pip install -r requirements.txt
2 # Then run this: python app.py      Dazza Greenwood, 5 days ago • first commit
3
4
5 from flask import Flask, render_template, request, jsonify, send_from_directory, flash
6 import os
7 import json
8 from app_logic import generate_plan, develop_drafts, generate_revision_requests, compile_final_plan, convert_to_markdown
9
10 app = Flask(__name__)
11 app.config['SECRET_KEY'] = 'devs78' # Replace with a strong, random secret key
12 app.config['UPLOAD_FOLDER'] = os.path.join(app.root_path, 'downloads')
13 os.makedirs(app.config['UPLOAD_FOLDER'], exist_ok=True)
14
15 @app.route('/', methods=['GET', 'POST'])
16 def index():
17     if request.method == 'POST':
18         project_goal = request.form['project_goal']
19         if not project_goal.strip():
20             flash('Please enter a project goal.', 'error')
21             return render_template('index.html')
22
23     try:
24         # Call functions from app_logic.py
25         plan = generate_plan(project_goal)
26         if plan is None:
27             flash('Failed to generate plan. Please try again.', 'error')
28             return render_template('index.html')
29
30         drafts = develop_drafts(plan, project_goal)
31         revision_requests = generate_revision_requests(drafts, plan, project_goal)
32
33     except Exception as e:
34         flash(f'An error occurred: {e}', 'error')
35         return render_template('index.html')
36
37     return render_template('index.html', plan=plan, drafts=drafts, revision_requests=revision_requests)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS

Python

Use a production WSGI server instead.
* Debug mode: on
2024-09-05 16:31:07,740 - INFO - * Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
2024-09-05 16:31:07,740 - INFO - * Restarting with stat
2024-09-05 16:31:08,285 - WARNING - * Debugger is active!
2024-09-05 16:31:08,294 - INFO - * Debugger PIN: 514-320-705

AI Scientist

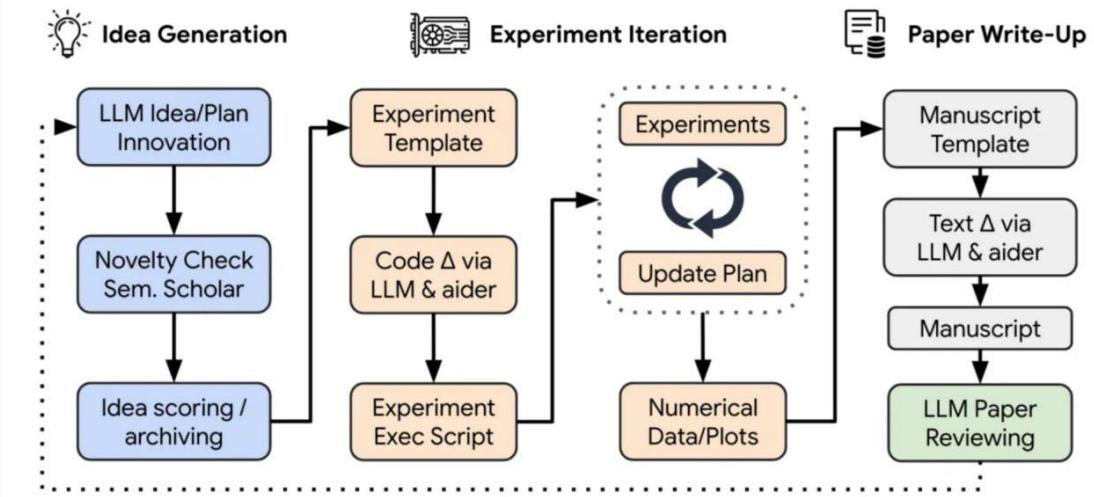


Initial PoC of End-to-End Paper Writing



The AI Scientist: Towards Fully Automated Open-Ended Scientific Discovery

[Paper] | [Blog Post] | [Drive Folder]



Transactional Applications

Transactions

What happens when parts of the actions agentic AI systems perform includes conducting transactions?

Agentic GenAI Transaction Systems

How can key existing accepted business and legal frameworks for web-based transactions and intermediaries be operationalized at the interface with agentic AI systems in a way that avoids or mitigates risk, ensures accountability, and yields predictable legal outcomes when harms arise?

Hypothesis 1: Key provisions of existing law governing use of electronic agents and autonomous transactions (such as UETA, ESIGN, and other relevant legal frameworks) can easily be leveraged to directly address many of the crucial challenges presented by use of agentic AI systems.

Hypothesis 2: Focusing the scope of this research on scenarios and use cases involving an agentic AI systems conducting forms of transaction between a user-principal and a third party reflects many existing and near term applications of agent systems and unlocks the forgotten value of the aforementioned legal frameworks.

Hypothesis 3: A standardized agent interface protocol, informed by the principles of the aforementioned legal frameworks, is a simple way to effectuate attribution of actions to legal parties, facilitating accountability when harms occur, and the learning from such a protocol can inform other technical approaches for achieving the same business and legal results.

Research Approach:

Our research will leverage the robust legal frameworks of UETA, ESIGN, and other existing legal frameworks to construct a comprehensive operational model for agentic AI systems engaged in transactions. The core scenario involves transactions conducted by an agentic system on behalf of a user-principal with third parties. We'll explore variations where different actors, like service providers, are part of the transactional chain.

Project Lead: Daniel "Dazza" Greenwood

RELATED ORGANIZATION

CodeX: The Stanford Center for Legal Informatics

RELATED PEOPLE

Daniel "Dazza" Greenwood

The Brief Foray of "Large Action Models"

Salesforce AI Research - [About](#) [Research](#) [Trusted AI](#) [Resources](#) [Careers](#) [Blog](#) [AI Playground](#)

Toward Actionable Generative AI
27 Jun 2023 • 10 min read
Silvio Savarese

LAMs: From Large Language Models to Large Action Models
There's no question that we're living in the era of generative AI, and its impact is only growing. More and more, AI is helping us write emails, create imagery, consume information, and even code. But as empowering as it is to generate something valuable, whether a beautiful illustration or a customer service reply, there's something else that's just as important: the process that surrounds it.

Atos
[Blog](#) / [AI, Large Action Models and the future of the digital workplace](#)

AI, Large Action Models and the future of the digital workplace

GlobeNewswire by notified

Orby AI Raises \$30 Million to Deliver the First Large Action Model for AI Automation
Unlocking Unrivaled Enterprise Efficiencies

Co-led by NEA, Wing VC and WndrCo and joined by Pear VC, Orby's series A investments will define the new market for Generative Process Automation

June 27, 2024 08:00 ET | Source: [Orby AI](#)

Beyond Large Language Models; The Large Action Model

Large Action Models (LAMs) are a new advancement in AI that builds upon the capabilities of Large Language Models (LLMs). LAMs leverage a combination of existing AI technologies to bridge the gap between understanding language and taking action in the digital world. Here's a breakdown of how they differ and what LAMs can potentially do for businesses:

Basic Existing Transactional Use Cases

Online Shopping Agent: Handles product search, price comparisons, purchases, and delivery arrangements. Legal considerations include e-commerce terms & conditions, return policies, and consumer protection regulations.

Travel Booking Agent: Books flights, accommodations, and transportation based on user preferences and constraints. Legal aspects involve cancellation policies, travel insurance terms, and potential liability issues.

Appointment Scheduling Agent: Manages bookings with service providers like doctors or hairdressers. Legal considerations include adherence to booking site terms and relevant guidelines (e.g., HIPAA for healthcare).

Automated Bill Payment Agent: Ensures timely payments and manages account balances. Key legal aspects include financial regulations and secure handling of sensitive data.

"Actions" to "Interactions" to "Transactions"

Add Agenda Action

Machine Learning Training

Find the Current Price of a Product

Web Browsing Action

Schedule Appointment

Download and Process Tabular Data

SQL Query Action

Data Visualization

Tabular Data Operations

Error Handling and Self-Debugging

Mathematical Calculations and Math Problems

API Call

Robot Planning Action

Purchase a Given Product

CodeX Research: Contracts & Terms Review

- Statement of Common Agentic AI Applications and Services
- Statement of Key Use Cases, Scenarios, and Fact Patterns
- User Terms on Sites Commonly Accessed or Transacted Through by Agents
- Applicable API and Other Agentic Service Terms
- Legal Analysis, Issues, Options, and Look Ahead

UETA and ESIGN Provide Helpful Frameworks

- Electronic Agent
- Automated Transactions
- Attribution
- Security Procedures
- Electronic Signatures, Contracts, and Records

UETA and ESIGN Provide Helpful Frameworks

Electronic Agents

*The term “electronic agent” means a **computer program** or an electronic or other automated means **used independently to initiate an action or respond** to electronic records or performances in whole or in part **without review or action by an individual** at the time of the action or response.*

UETA and ESIGN Provide Helpful Frameworks

Automated Transactions

*A contract may be formed by the **interaction of electronic agents of the parties**, even if no individual was aware of or reviewed the electronic agents' actions or the resulting terms and agreements.*

UETA Agent Transaction Error Handling

*Section 10 of UETA (addressing errors) **empowers the user to reverse transactions if the agent did not provide a means to prevent or correct the error.** This provision should be carefully understood by transactional agent providers to ensure their process flow and user interactions support and reflect adequate means to prevent or correct errors.*

UETA Agent Transaction Error Handling

Key Relationships and Roles

| Role | Core Function | Relation to Finality | |
|----------------|---------------------------------------|---|---|
| The User | Initiates and confirms transactions | Has statutory right to reverse transactions without proper error handling |    |
| Agent Provider | Provides the agent system to the user | Must implement error prevention/correction to achieve finality | |
| Third Party | Delivers goods/services | Needs protection from transaction reversal | |

Source: Dazza Greenwood • Get the data • Created with Datawrapper

Note: In some arrangements, the Third Party may also serve as the Agent Provider, offering an agent for users to interact with their own services.

UETA Error Handling Open Source Demo

 ueta-agent-error-handling-demos Public

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[main](#) [1 Branch](#) [1 Tag](#) [Go to file](#) [Add file](#) [Code](#)

| File | Description | Time |
|----------------|----------------------------------|-----------------------|
| business.ts | changed to seller.ts | 34827da · 2 weeks ago |
| .gitignore | removed logs, approval | 2 weeks ago |
| LICENSE | Initial commit | 2 weeks ago |
| README.md | business.ts changed to seller.ts | 2 weeks ago |
| agent.ts | added agent approval process | 2 weeks ago |
| config.ts | added auditing and config | 2 weeks ago |
| human.ts | added agent approval process | 2 weeks ago |
| package.json | business.ts changed to seller.ts | 2 weeks ago |
| pnpm-lock.yaml | added agent approval process | 2 weeks ago |

About

Uniform Electronic Transactions Act based error handling agent demos. Collaboration between Andor Kesselman and Dazza Greenwood

[demo](#) [transaction](#) [legal-ai](#) [ueta](#)
[agentic](#) [agentic-ai](#)
[electronic-payments](#)

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Newer State Law Supporting AI Agents

Innovative State Law: Wyoming Digital Identity Act and Related Statutes

- Definitions: "Personal digital identity" means the intangible digital representation of, by and for a natural person, over which he has principal authority and through which [they] intentionally communicates or acts
 - Parallel Provisions for "Organizational Digital Identity"
 - Explicit Integrations with Wyoming's Criminal Impersonation and relevant UETA provisions
- Algorithmically Managed LLCs and Non-Profits
- Coming Soon: Cryptographically verifiable identifiers for corporations & LLCs

(Some) Issues and Options

- Authorize/Delegate → UX & Logs for Human/Agent Interface
- Attribution → Identification of First Party
- Apparent Authority → Communicate Actual Authority
- Errors & Mistakes → Agreement on Use of Agents

Interested to Get Involved in this Research?

Request and invitation to the law.MIT.edu and Stanford CodeX
ComputationalLaw.org Special Interest Groups on Agentic AI research at:

<https://ComputationalLaw.org>

Attribution: Example API Field Bootstrap

`safetyRatings[] object (SafetyRating)`

List of ratings for the safety of a response candidate.

There is at most one rating per category.

`citationMetadata object (CitationMetadata)`

Output only. Citation information for model-generated candidate.

This field may be populated with recitation information for any text included in the content. These are passages that are "recited" from copyrighted material in the foundational LLM's training data.

`tokenCount integer`

Output only. Token count for this candidate.

`groundingAttributions[] object (GroundingAttribution)`

Output only. Attribution information for sources that contributed to a grounded answer.

This field is populated for GenerateAnswer calls.

`index integer`

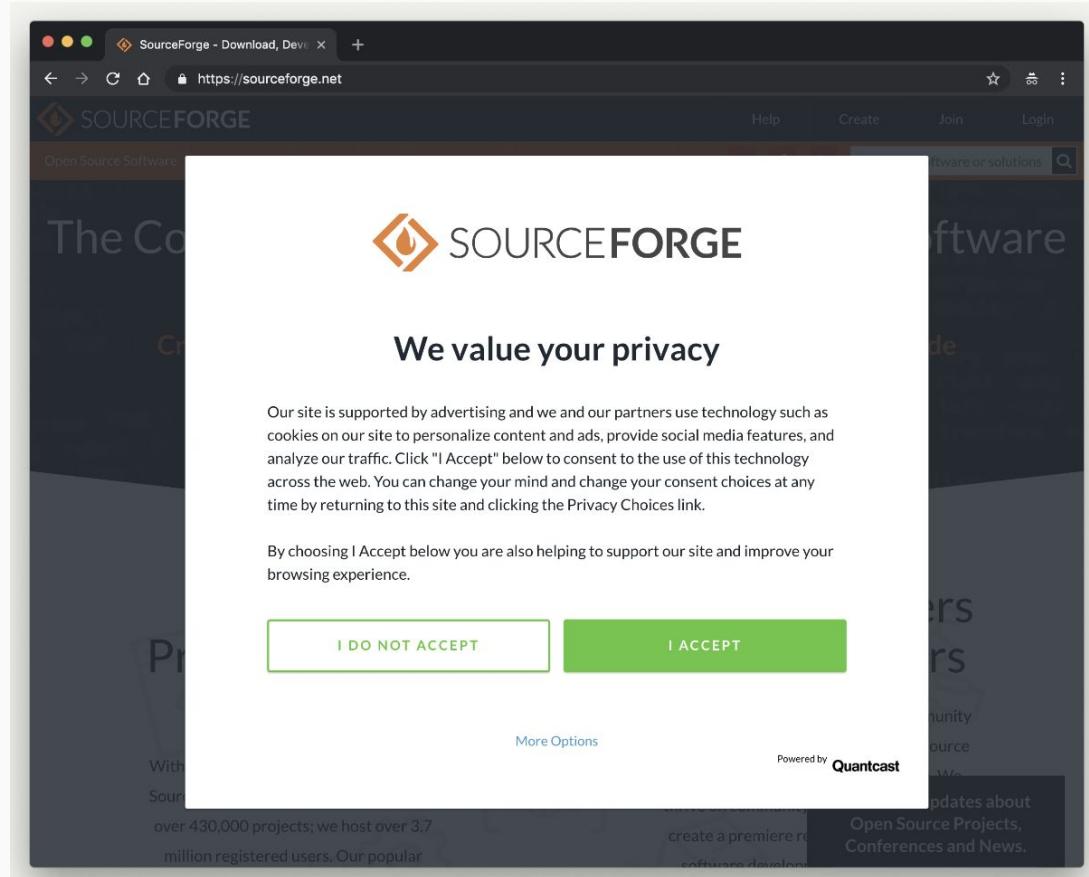
Output only. Index of the candidate in the list of response candidates.

JSON representation

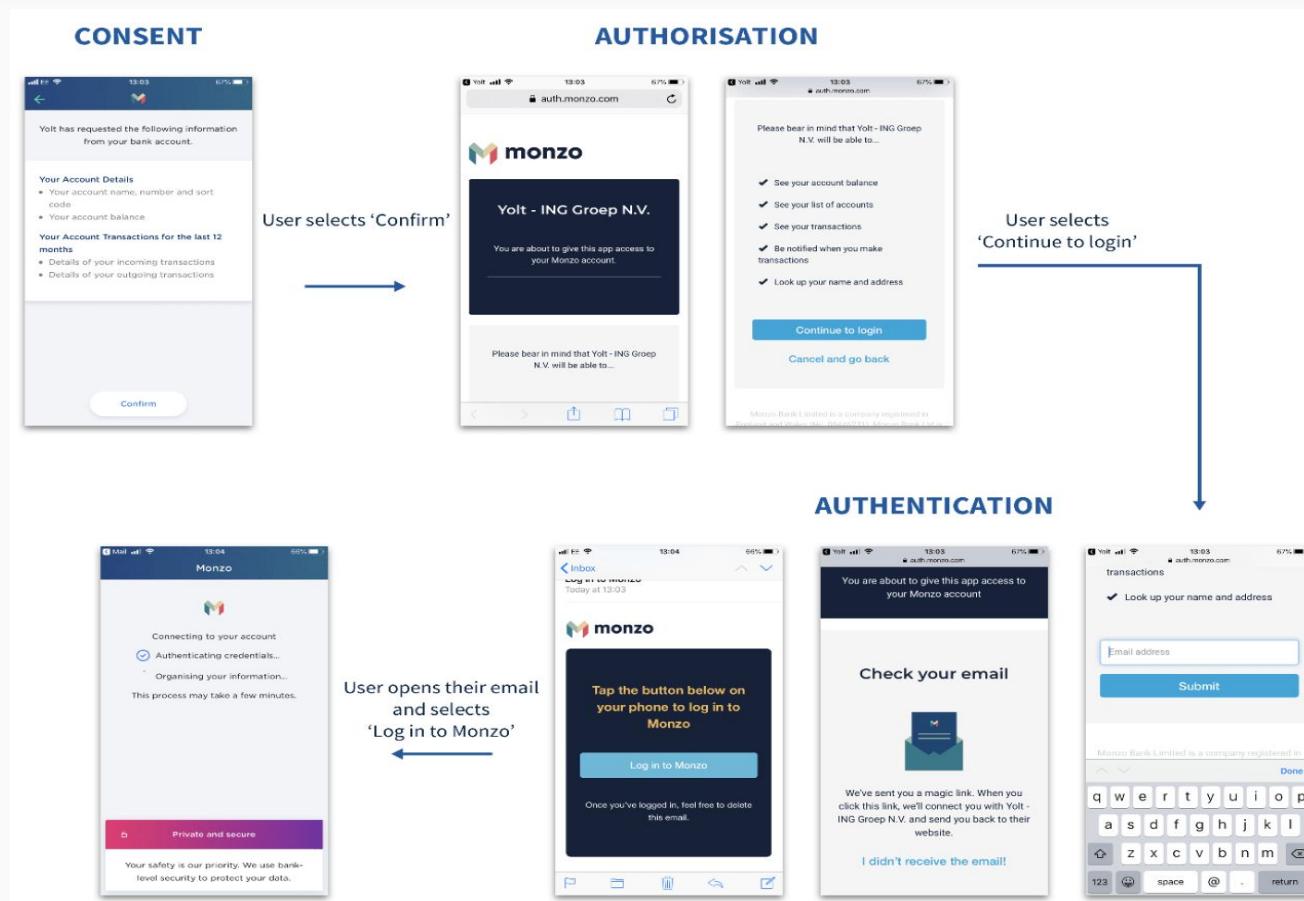
```
{  
  "content": {  
    object (Content)  
  },  
  "finishReason": enum (FinishReason),  
  "safetyRatings": [  
    {  
      object (SafetyRating)  
    }  
  ],  
  "citationMetadata": {  
    object (CitationMetadata)  
  },  
  "tokenCount": integer,  
  "groundingAttributions": [  
    {  
      object (GroundingAttribution)  
    }  
  ],  
  "index": integer  
}
```



Consent and Authorization Best Practices



Consent and Authorization UI/UX Good Practices



Consent & Authorization Tech for Agent Flows

Oauth 2 and
OpenID Connect

...You know it
best for login

Log in using your account on:



Consent and Authorization

Potentially Well Suited
Technical Approaches:

Oauth 2 & OpenID
Connect works for
many scope of
authority beyond login

Authorize application

Example App by @oauth2 would like permission to access your account

Review permissions



Delete repositories

Ability to delete any admirable repository



Notifications

Read access



Gists

Read and write access

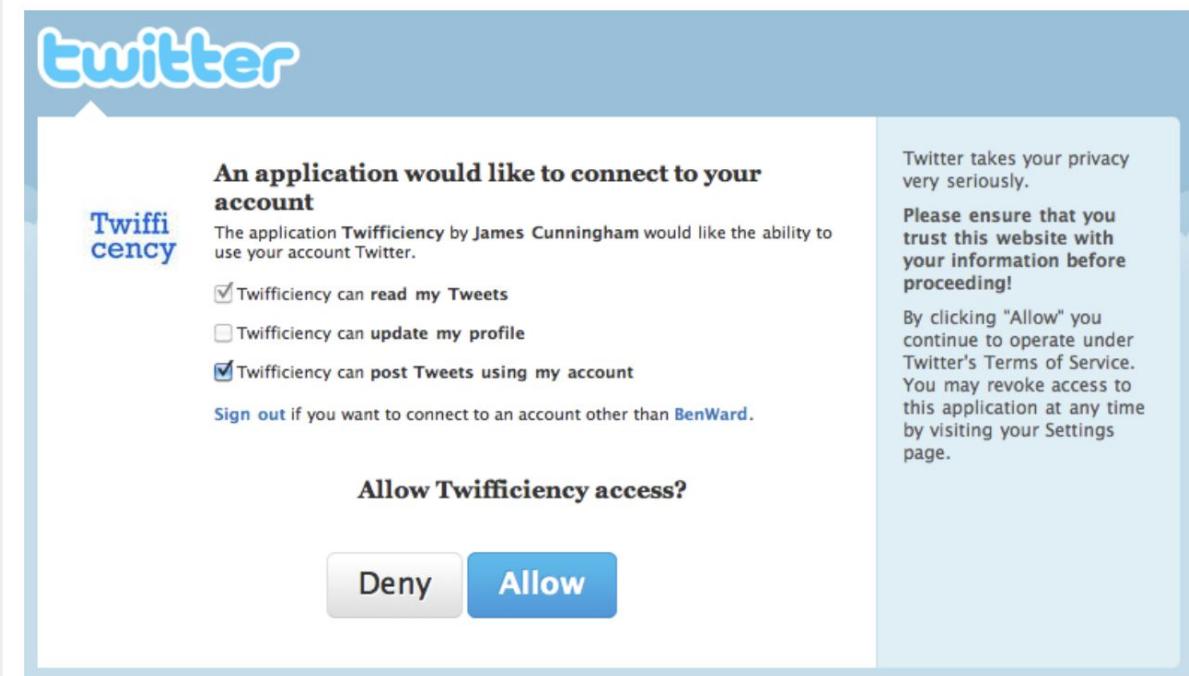
This application will be able to read and write your public and secret gists.

[Learn more](#)

Consent and Authorization

Potentially Well Suited
Technical Approaches:

Authorizations can be
fine-grained and clearly
delegated



- **Passkeys use unique cryptographic key pairs** for each account: private key stored securely on your device, public key used for authentication
- **Enable biometric login** with Face ID or Touch ID, eliminating the need for passwords
- **Work seamlessly across devices** and are gaining support from major apps, platforms, and online services

Consent and Authorization

Potentially Well Suited
Technical Approaches:

Passkey in Apple Ecosystem

Consent and Authorization Good Tech Examples

Authorize application

Example App by @oauth2 would like permission to access your account

Review permissions

| | |
|---|--|
|  | Delete repositories Ability to delete any admirable repository |
|  | Notifications Read access |
|  | Gists Read and write access This application will be able to read and write your public and secret gists. |

[? Learn more](#)

 **An application would like to connect to your account**

The application Twifficiency by James Cunningham would like the ability to use your account Twitter.

Twifficiency can read my Tweets
 Twifficiency can update my profile
 Twifficiency can post Tweets using my account

[Sign out](#) if you want to connect to an account other than BenWard.

Allow Twifficiency access?

[Deny](#) [Allow](#)

Twitter takes your privacy very seriously.
Please ensure that you trust this website with your information before proceeding!
By clicking "Allow" you continue to operate under Twitter's Terms of Service. You may revoke access to this application at any time by visiting your Settings page.

Agreement on Agentic AI: One-Way Terms

| LICENSES | TERMS |
|--|--|
|  |  Attribution |
|  |  No Derivative Works |
|  |  Share Alike |
|  |  Non-Commercial |
|  | |

Creative Commons & llms.txt

[Background](#)

[Proposal](#)

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[Existing standards](#)

[Example](#)

[Next steps](#)

[Report an issue](#)

[Other Formats](#)

[CommonMark](#)

The /llms.txt file

A proposal to standardise on using an `/llms.txt` file to provide information to help LLMs use a website at inference time.

AUTHOR: Jeremy Howard
PUBLISHED: September 3, 2024

Background

Today websites are not just used to provide information to people, but they are also used to provide information to large language models. For instance, language models are often used to enhance development environments used by coders, with many systems including an option to ingest information about programming libraries and APIs from website documentation.

Providing information for language models is a little different to providing information for humans, although there is plenty of overlap. Language models generally like to have information in a more concise form. This can be more similar to what a human expert would want to read. Language models can ingest a lot of information quickly, so it can be helpful to have a single place where all of the key information can be collated—not for training (since training generally involved scraping all pages in all readable formats), but for helping users accessing the site via AI helpers.

Agreement on Agentic AI: Two-Way Terms

P7012 & Bon Terms

[IEEE.org](#) | IEEE Xplore Digital Library | IEEE Standards | IEEE Spectrum | More Sites



Standards

Products & Programs

Focuses

Get Involved

Resources

MAC ADDRESS



P7012

Standard for Machine Readable Personal Privacy Terms

Active PAR

[Home](#) > [Projects](#) > Standard for Machine Readable Personal Privacy Terms

The standard identifies/addresses the manner in which personal privacy terms are proffered and how they can be read and agreed to by machines.

The screenshot shows the Bon Terms platform's user interface. At the top, there is a navigation bar with links for "Platform", "Standard Agreements", "Success", and "Committee". A dropdown menu under "Standard Agreements" is open, showing options like "Mutual NDA", "Cloud Terms", "AI Clauses", "SLA", "DPA", "PSA", "Online Cloud Terms", "Marketplace Transactions", and "How To". The main content area features the text "ENTERPRISE AGREEMENT FINDER" and "se in s for /." followed by "endor on the Bonterms" and "ou get your deal done, fast, on". There is also a mention of "Active PAR". The IEEE logo is visible in the background.

Personal Data & Individual/Consumer LLM Agents

The screenshot shows the Data Rights Protocol website. At the top left is the logo, which is a stylized hexagon containing a person icon. To the right of the logo is the text "Data Rights Protocol". The top navigation bar includes links for "Approach", "Implementers", "Updates", and a prominent blue button labeled "Get Involved". Above the "Get Involved" button are three smaller links: "Spec", "FAQ", and "Contact Us", each in a separate green box. The main content area has a teal background. On the left, the text "Standardizing consumers' data rights requests" is displayed. On the right, there is a diagram consisting of four icons connected by lines: a person icon in a circle, a person icon in a hexagon, a person icon in a gear, and a globe icon.

Data Rights Protocol

Approach Implementers Updates Get Involved

Spec FAQ Contact Us

Standardizing consumers' data rights requests

Interested to Get Involved in this Research?

Request and invitation to the law.MIT.edu and Stanford CodeX
ComputationalLaw.org Special Interest Groups on Agentic AI research at:

<https://ComputationalLaw.org>

Thank you!