



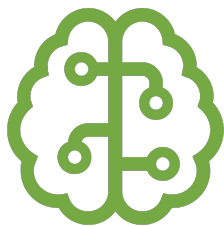
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Making Sense of AI for Local Government

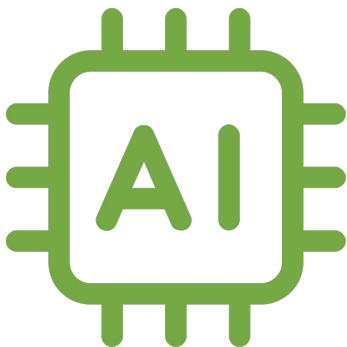
An Exploration of Real World AI Use Cases

By Chris Bullock, CEO of ClearGov

I promise...

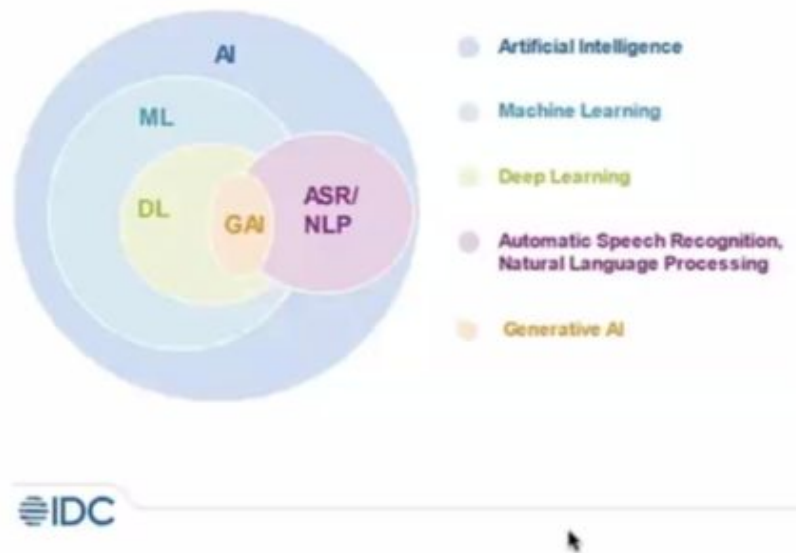
- We will not get too technical.
- We will explain AI is easy to understand terms.
- We will provide real world use cases.
- We will “demystify” AI for local governments.

What is Artificial Intelligence?



- *Artificial intelligence* refers to a technical model created to solve a specific problem or provide a particular service.
- AI is a collection of interrelated technologies and systems that *impersonate* the cognitive functions of the human mind for solving problems, performing tasks, making recommendations and decisions without any or with limited explicit guidance from humans.
 - ChatGPT analyzes text and is learning how to write better but can't learn other tasks.
- The term *artificial general intelligence (AGI)* refers to software that's capable of learning any task or subject. AGI doesn't exist yet.
 - There is a robust debate going on in the computing industry about how to create it, and whether it can even be created at all.

The Bigger Picture & ChatGPT



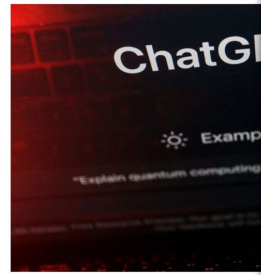
- Traditional AI has been focused on pattern recognition and predictive decision making.
 - Self-driving car software - it needs to be trained on large volumes on driving scenarios. Tesla actually feeds training data from every car to its AI system.
- ChatGPT is a part of a new generation of “Generative Media” that includes not only text generation, but also images, video, audio and even code.
- DALLe is another generative media AI tool that can generate pictures from a text input.

ChatGPT exploded onto the scene early this year...



As ChatGPT's Popularity Explodes, U.S. Lawmakers Take an Interest

By Reuters Feb. 13, 2023, at 7:01 a.m.



FILE PHOTO: A keyboard is seen reflected on a computer screen displaying the OpenAI logo in this illustration picture taken February 8, 2023. REUTERS/Inveco

By Diane Bartz

REUTERS Technology World Business Legal Markets More

ChatGPT sets record for fastest-growing user base - analyst notes

By Krystal Hu



Feb 1 (Reuters) - ChatGPT, the popular chatbot from OpenAI, is estimated to have reached 100 million monthly active users in January, just two months after launch, making it the fastest-growing consumer application in history, according to a UBS study on Wednesday.

The report, citing data from analytics firm Similarweb, said an average of about 13 million unique visitors had used ChatGPT per day in January, more than double the levels of December.



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Chatbots

This article is more than 1 month old

ChatGPT reaches 100 million users two months after launch

Unprecedented take-up may make AI chatbot the fastest-growing consumer internet app ever, analysts say



ChatGPT is owned by Microsoft-backed company OpenAI. Photograph: Pavlo Gonchar/Sopa Images/Rev/Shutterstock

Dan Milmo and agency

This 2 Feb 2023 15:48 EST



MIT Technology Review

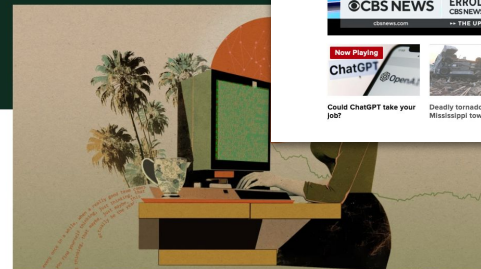
ARTIFICIAL INTELLIGENCE

ChatGPT is about to revolutionize work. We need to decide what that means.

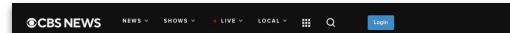
New large language models will transform many jobs. Whether to widespread prosperity or not is up to us.

By David Rotman

March 25, 2023



STEPHANIE ARNETT/ITR



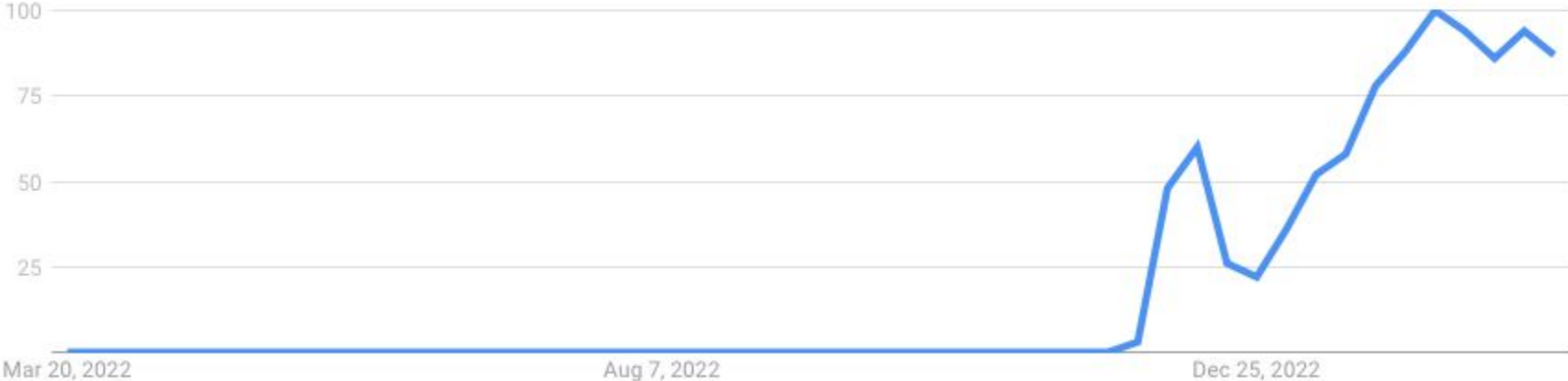
ChatGPT is growing faster than TikTok

BY MEGAN CERRULLO FEBRUARY 13, 2023 5:02 PM | MONEYWATCH

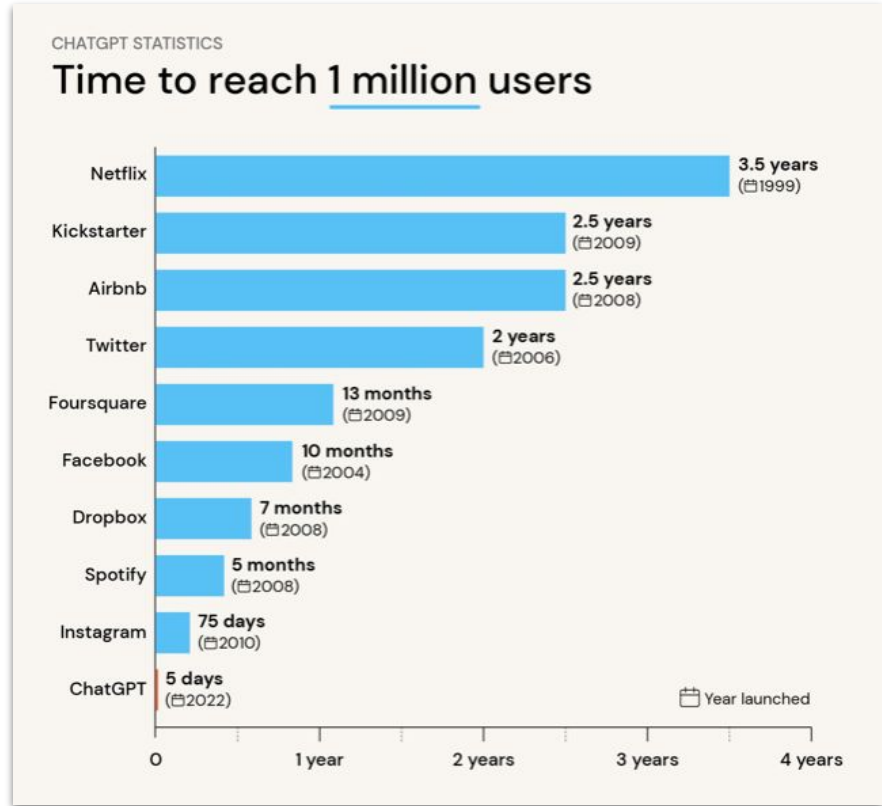


Don't just take my word for it...

Google Search Term: ChatGPT



Fastest growing technology in history.



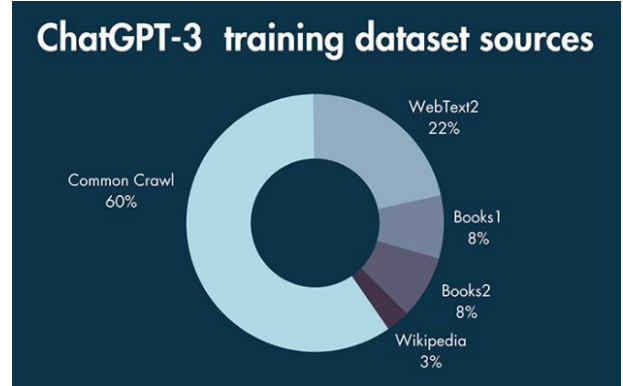
WHAT THE HECK



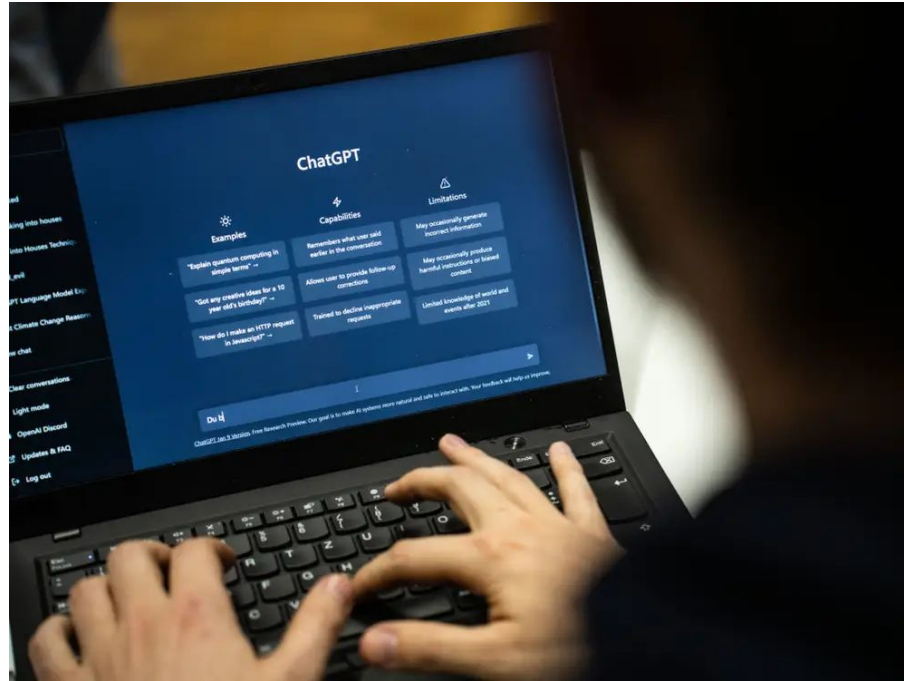
IS CHAT GPT?!?

What is ChatGPT?

- ChatGPT (Generative Pre-trained Transformer) is an **artificial intelligence model** designed by OpenAI that **takes the form of a chatbot** that can answer user queries and provide **human-like conversational answers**.
- Pre-trained on OpenAI's Large Language Model, which are machine learning models designed to learn the structure and patterns of language from large datasets.
- This deep-learning model was **trained on** the WebText dataset, which uses text from around **45M links found on Reddit** as a starting point.
- Its dataset is limited to information from before its **two-month training in 2021**.
- ChatGPT also relies on reinforced learning from **human feedback** (RLHF) to improve its functionality..
- There is also Google Bard, Jasper and other models.



Seeing is believing, so let's take a look...



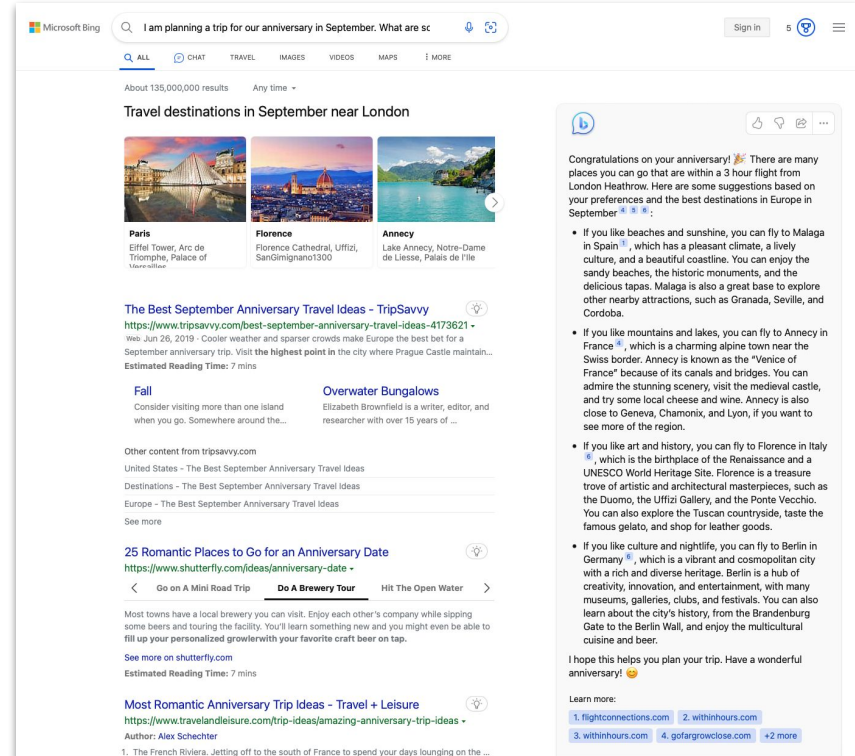
“The development of AI is as fundamental as the creation of the microprocessor, the personal computer, the Internet, and the mobile phone.”

Bill Gates
Founder of Microsoft
The Age of AI has Begun



Microsoft Inks \$10B Deal w/OpenAI

- Broad scope deal that will allow Microsoft to incorporate ChatGPT into many products, including:
 - Bing search engine
 - Ask conversational questions and it will provide the answer
 - Search pages with links will seem quaint
 - Some are even calling this the “Post Search Era”
 - Office
 - Content/email writing
 - Teams
 - Transcribe meeting summaries
- “Every product of Microsoft will have some of the same AI capabilities to completely transform the product.” - Satya Nadella, CEO



Poll

Have you used ChatGPT or any generative AI to assist your day-to-day duties in any way?

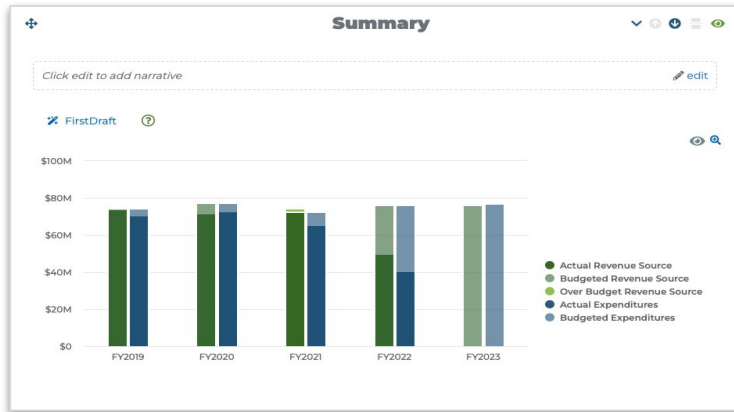


Real World Examples of AI in Local Governments

Example #1 : Writing Financial Narratives

• OLD WAY

- Invite department heads to add narrative to their department section of the budget book.
- They are likely not expert writers.
- They stare at a blank page, while they could be doing more strategic and productive tasks.



• NEW WAY

- Build a budget book page and generate the narrative using generative media.
- Invite department heads to edit and add color to the drafted narrative.
- They are freed to be doing more strategic and productive tasks.



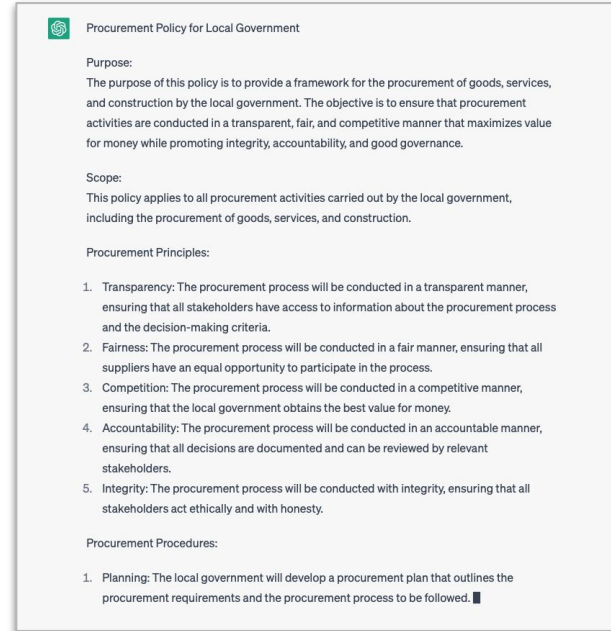
Example #2 : Policy Draft Generation

● OLD WAY

- Spend hours drafting policies based upon input and web research of other municipalities.

● NEW WAY

- Use ChatGPT to create policy first drafts drawing upon thousands of municipal examples.
- The more specific you are feeding the prompt the more tailored it will be to your liking.
- Use case examples:
 - Financial policy
 - Economic Development policy
 - Infrastructure Development policy
 - Housing and Land Use policy
 - Public Safety policy
 - Education policy
 - Social Services policy
 - Environmental Protection policy
 - Culture & Recreation policy



Procurement Policy for Local Government

Purpose:
The purpose of this policy is to provide a framework for the procurement of goods, services, and construction by the local government. The objective is to ensure that procurement activities are conducted in a transparent, fair, and competitive manner that maximizes value for money while promoting integrity, accountability, and good governance.

Scope:
This policy applies to all procurement activities carried out by the local government, including the procurement of goods, services, and construction.

Procurement Principles:

1. **Transparency:** The procurement process will be conducted in a transparent manner, ensuring that all stakeholders have access to information about the procurement process and the decision-making criteria.
2. **Fairness:** The procurement process will be conducted in a fair manner, ensuring that all suppliers have an equal opportunity to participate in the process.
3. **Competition:** The procurement process will be conducted in a competitive manner, ensuring that the local government obtains the best value for money.
4. **Accountability:** The procurement process will be conducted in an accountable manner, ensuring that all decisions are documented and can be reviewed by relevant stakeholders.
5. **Integrity:** The procurement process will be conducted with integrity, ensuring that all stakeholders act ethically and with honesty.

Procurement Procedures:

1. **Planning:** The local government will develop a procurement plan that outlines the procurement requirements and the procurement process to be followed. ■

Sample of a Procurement Policy drafted by ChatGPT

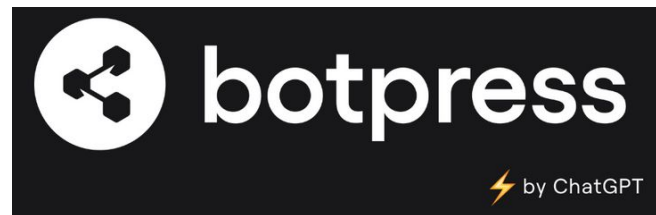
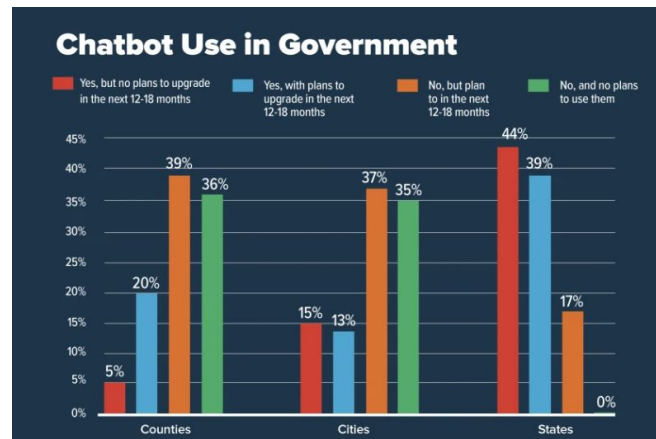
Example # 3: Constituent Support

• OLD WAY

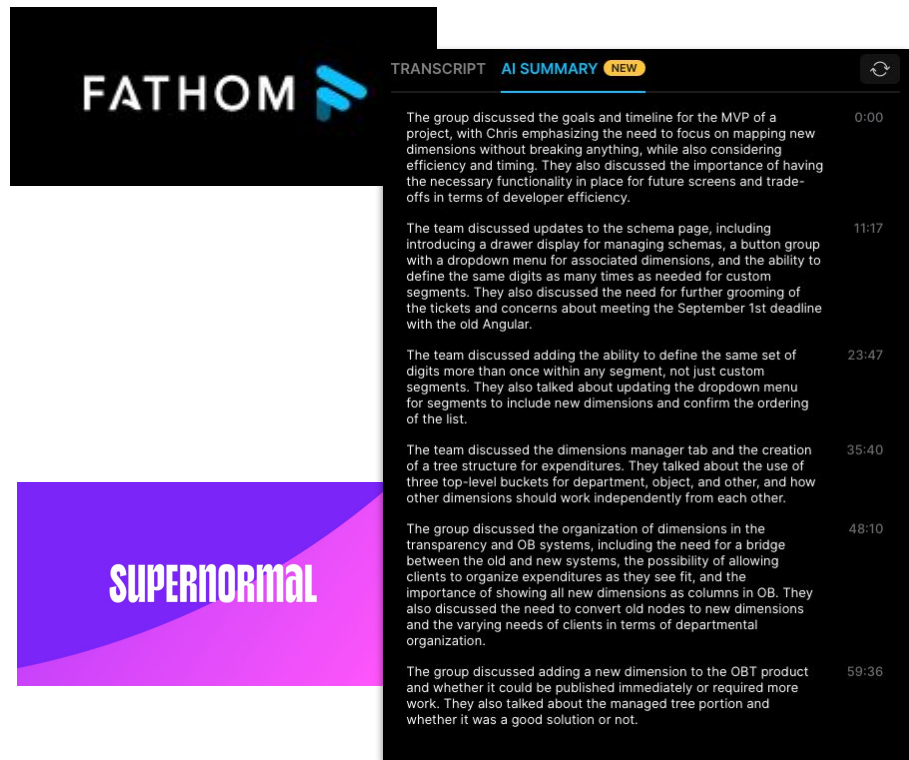
- Phone voice response systems that frustrate residents.
- Websites that sometimes take time to find answers.
- Chat bots act more like search engine.

• NEW WAY

- A new generation of chat bots that are conversational (e.g. answering questions vs. pointing to a link).
- These systems get better with access to more training data. So connecting into systems and freeing data from PDFs becomes essential.
- Conversational chat can reduce incoming call volume.
- Can answer questions around...
 - Recycle and trash collection
 - Vehicle registration
 - Pay taxes (can even drive revenue!)
 - COVID-19
- Can work in 100+languages



Example #4: Meeting Minutes

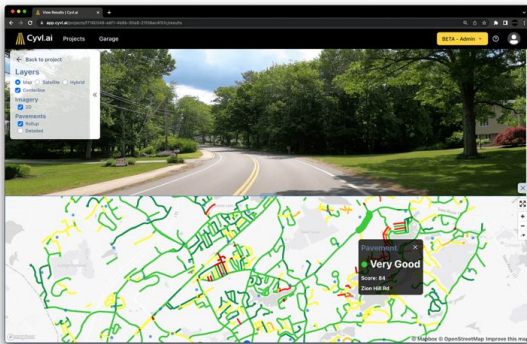
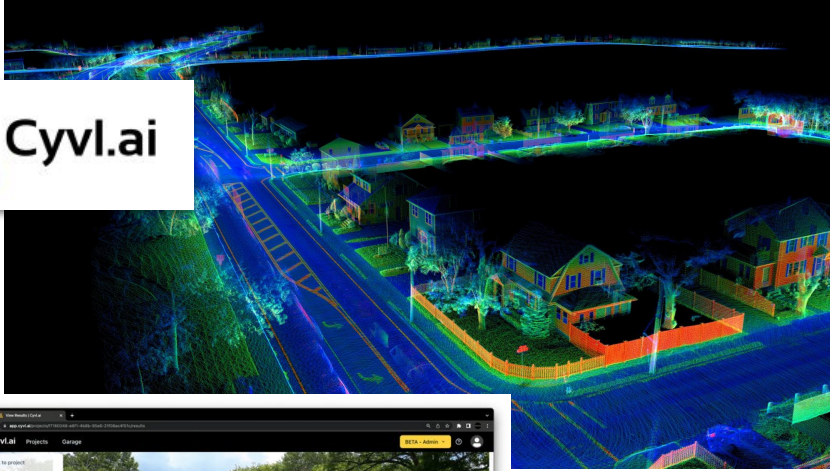


The screenshot shows a meeting transcript interface. At the top left is the 'FATHOM' logo. Below it is a purple and pink gradient banner with the word 'SUPERNORMAL' in white. The transcript is displayed in a dark theme with a 'TRANSCRIPT AI SUMMARY NEW' header. The transcript content is as follows:

Timestamp	Text
0:00	The group discussed the goals and timeline for the MVP of a project, with Chris emphasizing the need to focus on mapping new dimensions without breaking anything, while also considering efficiency and timing. They also discussed the importance of having the necessary functionality in place for future screens and trade-offs in terms of developer efficiency.
11:17	The team discussed updates to the schema page, including introducing a drawer display for managing schemas, a button group with a dropdown menu for associated dimensions, and the ability to define the same digits as many times as needed for custom segments. They also discussed the need for further grooming of the tickets and concerns about meeting the September 1st deadline with the old Angular.
23:47	The team discussed adding the ability to define the same set of digits more than once within any segment, not just custom segments. They also talked about updating the dropdown menu for segments to include new dimensions and confirm the ordering of the list.
35:40	The team discussed the dimensions manager tab and the creation of a tree structure for expenditures. They talked about the use of three top-level buckets for department, object, and other, and how other dimensions should work independently from each other.
48:10	The group discussed the organization of dimensions in the transparency and OB systems, including the need for a bridge between the old and new systems, the possibility of allowing clients to organize expenditures as they see fit, and the importance of showing all new dimensions as columns in OB. They also discussed the need to convert old nodes to new dimensions and the varying needs of clients in terms of departmental organization.
59:36	The group discussed adding a new dimension to the OBT product and whether it could be published immediately or required more work. They also talked about the managed tree portion and whether it was a good solution or not.

- **OLD WAY**
 - Secretary records notes by hand (struggles to keep up and record salient points).
- **NEW AI WAY**
 - AI tool dials into Zoom meeting to record call.
 - Automatically transcribes meeting.
 - Automatically summarizes meeting into bulleted discussion items in text with links to jump to that discussion in the video.
 - Some tools can even extrapolate action items from discussion.

Example #5: Infrastructure Assessment



- **OLD WAY**
 - Civil engineering firm is hired once every ~3 years
 - Manual inspection of roads and sidewalks.
 - Often too expensive to also inspect signs, trees, and other infrastructure assets.
- **NEW AI WAY**
 - AI firm is hired to digitally scan roads and other infrastructure via sophisticated 3D mapping technologies mounted on a vehicle.
 - Affordable enough to do every year.
 - “Digital Twin” of your city is created - will be common tool of the future.
 - AI automatically grades roads, identifies potholes, inventories signs and even analyzes trees.
 - More frequent analysis can better identify degradation over time and save money in the long run.

Example #6: Property Assessments

- **OLD WAY**

- Manual inspections via visits to property cost time and money.

- **NEW WAY**

- Providing high-resolution aerial imagery of assets such as roads, bridges, buildings, infrastructure, and vegetation which can be used for accurate inventory and monitoring.
- Automating the process of data collection and change analysis, reducing the time and resources required for manual inspections.
- Identifying patterns, trends, and anomalies in asset performance over time, which can help prioritize maintenance and repair work.
- Internal property assessments still need to be done via property visits.



Example # 7: Trash Monitoring



Source: <https://www.forbes.com/sites/oracle/2019/11/21/drones-and-artificial-intelligence-help-combat-the-san-francisco-bays-trash-problem/?sh=53005a845636>

San Francisco Estuary Institute

- **OLD WAY**
 - Manual inspection on foot
 - Manual inspection by drone
- **NEW WAY**
 - Using drones to capture thousand of images of estuaries
 - Train AI to recognize trash
 - Able to analyze hundreds of acres in a fraction of the time it would take to humans
 - 35,000 images analyzed in 18 hours vs. over a month by hand
 - Validate trash-monitoring and pick up methods
 - Produce a trash-monitoring playbook that community cleanup groups, municipal programs

Example #8: Traffic Enforcement

 HaydenAI



AI Powered Camera

- **OLD WAY**
 - Stop enforcement done via manually police officer.
 - Camera systems can also capture red light violations, but system is not “smart.”
- **NEW WAY**
 - “Mobile perception systems” that is able to detect, capture license plate info, and process traffic violations, metadata, and other relevant built environment data on the edge.
 - System can process and improve:
 - Bus lane change and bus stop violations
 - School bus stop arm violations
 - Garbage collection adherence
 - Street sweeper optimization
 - Traffic flow optimization
 - Speed up transit, make streets safer, and create a more sustainable future.
 - Over 400 installed and active units for Metropolitan Transportation Authority (MTA) buses in New York City.

Example #9 : Utility Revenue Recovery

- **OLD WAY**

- Mail “past due” invoices
- Advertise payment assistance programs via postcards

- **NEW WAY**

- Wilmington, DE Case Study: \$24m in unpaid water bills.
- Targeted digital ads on Facebook, Twitter and other web properties offering to assist residents in paying late bills by directing them to payment programs.
 - Meet them where they are!
 - No PII was provided to target.
- Geoframing technology helped target customers in specific area codes and AI helped to identify specific customer that were delinquent - so the ads were extremely targeted (and effective).
- Brought in over \$1.1m in unpaid bills (vs. \$22k cost of program).
- ROI was significantly higher than postcards.
- Now extending to other info campaigns - anything you would send out in a mailer can be done via targeted outreach.

V/I VOICE 4 IMPACT™



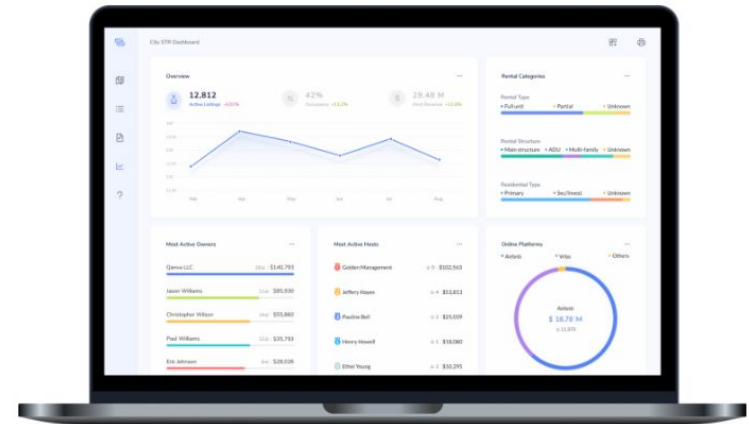
Example #10 : Short-term Rental Enforcement

- **OLD WAY**

- Short-term rentals have exploded and outpaced local resources...
- New short-term rentals are not reported and don't comply with local statutes.
- Revenue is not captured/lost.

- **NEW WAY**

- Advanced AI crawls thousands of listings on short term rentals sites and automatically identifies new listings in your city.
- Empowers local authorities to drive compliance and ultimately capture lost revenue opportunities.



Example #10: Training Teachers



- **OLD WAY**
 - Send teachers to expensive training seminars.
- **NEW WAY**
 - “AI coach” that records classroom sessions
 - Analyzes teacher techniques and student interactions (can understand gestures and narratives).
 - AI makes recommendations on best practices:
 - Suggested “Pulse Check on Students” technique
 - Suggested using hand gestures and more analogies
 - Suggests action plans and goals
 - Currently being used in school districts in Texas, Colorado and Washington state.

Source:

<https://www.govtech.com/education/k-12/ai-now-used-to-mentor-teachers-in-several-states>

Considerations

- **AI is different from AGI**
 - AI is limited to a task; AGI is designed for general understanding/context
- **Potential downsides**
 - Disinformation/misinformation
 - Deep fakes videos/speech/text, tech to validate what's real
 - Job elimination
 - Yes, some jobs will be replaced, but this always happens with new technology.
 - Humans adapt and are still needed to prompt the AI.
 - New jobs will be created - already seeing “AI Prompt Engineers” in job listings.
 - We will be more productive/freed to focus on more strategic tasks.
 - Cyber attacks powered by AI
 - Could become a real issue in the future.
 - Companies will be created to combat AI hackers.
- **A need for legal disclosure?**
 - No laws around this yet.
 - We suggest to be proactively transparent - “Augmented by AI” disclosure.

Closing Thoughts...

- AI is tool that is poised to augment human potential but still needs humans to prompt it.
- You don't need to know exactly how it works, but rather how it can help you be more productive and strategic.
- AI will have as big of an impact as the internet and mobile phones.
- You are ahead of the game simply by attending this webinar!



Thank you!

Send Feedback, Questions or AI Examples to:

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cbullock@cleargov.com



cleargov.com/lp/naco

Scan to schedule a
personalized demo