



Maryland
Department of
the Environment

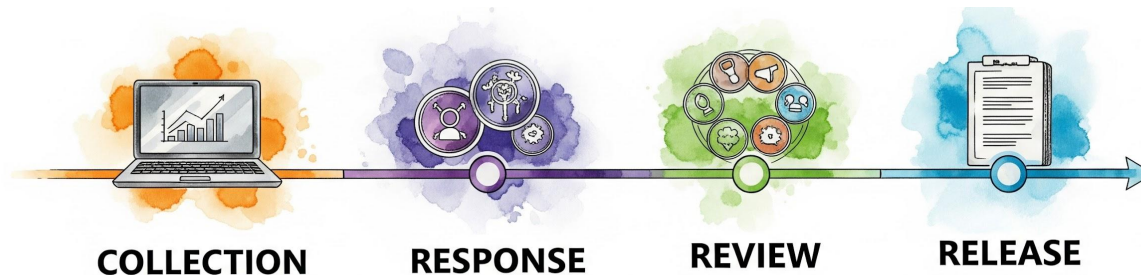
AI Use Demo: Response to Comments (RTC) Chatbot

Office of Information Management and Technology



What's the Problem?

- 2-week window for constituents to submit feedback (emails, public hearing transcripts)
- MDE must respond to each comment
- MDE permit engineers currently *manually* draft each response (must undergo review before release to public)
- Timeline 1-4 months *minus potential AG review*
 - Inefficient
 - Costly



[Horizontal timeline:
Collection, Response, Review,
Release. "Sketch" style.]





Breakdown Per Administration

Per comment-generating permit:

Air & Radiation

- 1 month
- 4 people
- 70-80 hrs

5-10 comment-generating
permits/year

Water & Science

- 1 month
- 2 people
- 80 hrs

50-70
comment-generating
permits/year

Land & Materials

- 1-4 months
- 1-2 people
- 128-512 hrs

2 comment-generating
permits/year



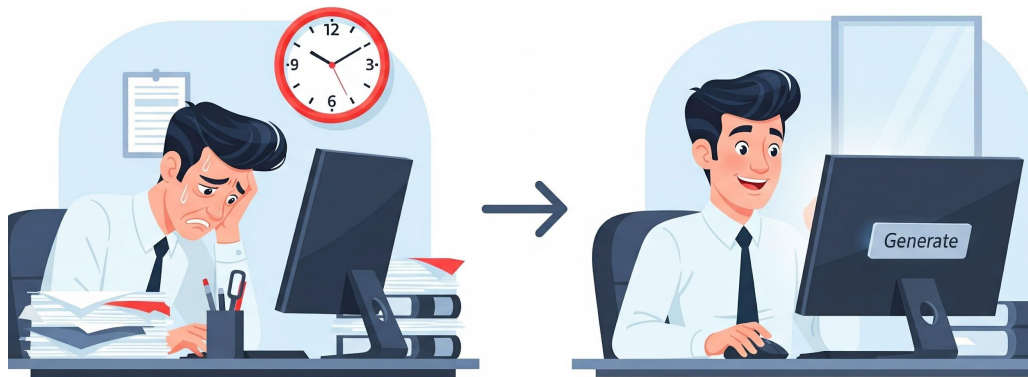


Why the AI RTC Chatbot?

Automates the manual RTC process especially as MDE aims to *increase* current public engagement

Goals:

- Streamline and expedite the responding
- Maintain/improve overall accuracy and depth
- Scale across MDE



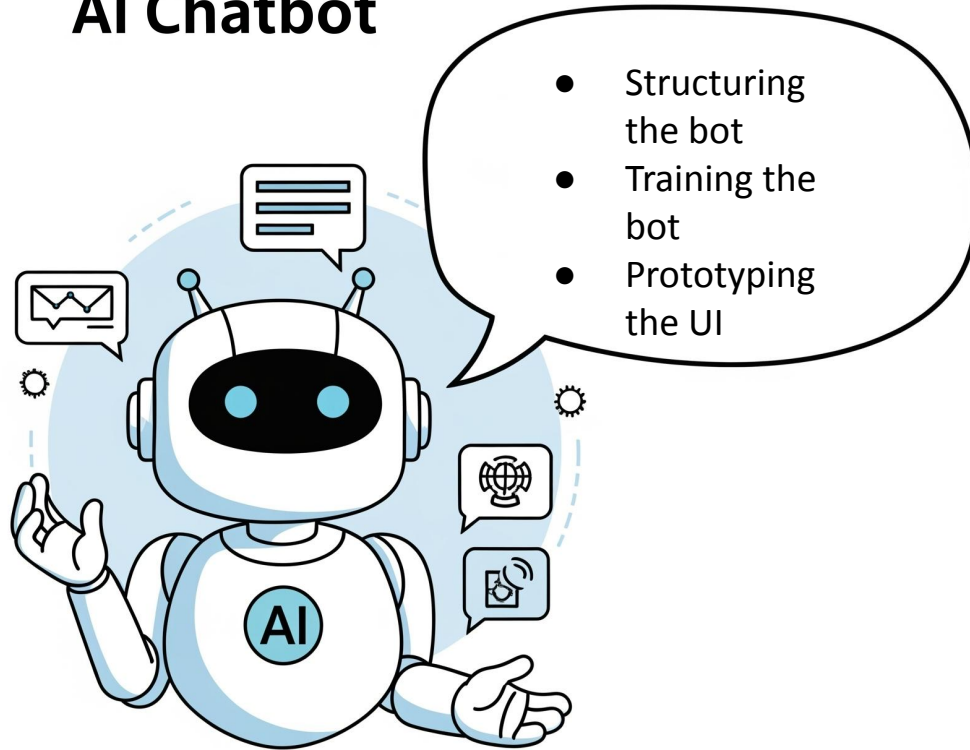
[Situation 1: stressed employee over desk computer. Arrow to Situation 2: relieved employee, computer with "Generate" button. "Vector art" style.]





Frameworks

AI Chatbot



[AI chatbot, speech bubble with bullet points: Structure, Training, UI Prototype, white background. "Vector art" style.]





Context: The Knowledge Base

What is a **knowledge base**?

- Chatbot reference repository
- Customizable
- Agile, mobile
- Specific, highly applicable content generation

**MARYLAND DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION ADMINISTRATION
RESPONSE TO COMMENTS
FOR THE
US WIND INC. - MARYLAND OFFSHORE WIND PROJECT
APPROXIMATELY 10 NAUTICAL MILES OFF THE COAST OF
WORCESTER COUNTY, MARYLAND**

Hearing Date: January 9, 2025
Ocean City Convention Center
4001 Coastal Highway
Ocean City, MD 21842

Purpose of the Hearing:
The purpose of the public hearing was to receive comments on the Maryland Department of the Environment's Tentative Determination for an air quality permit to construct application submitted by US Wind, Inc. for the installation of up to 121 wind turbine generators, up to four (4) offshore substations, and one (1) meteorological tower to be located approximately 10 nautical miles off the coast of Worcester County, Maryland.

Attendance:
Approximately 95 members of the general public attended the hearing. The hearing was also attended by Maryland State Senator Mary Beth Carozza, District 38; Delegate Wayne Hartman, District 38C; Commissioner Anthony Bertino, Worcester County; Commissioner Joe Mitreco, Worcester County; Chief Administrative Officer Weston Young, Worcester County; Robert Mitchell, Director of Environmental Programs, Worcester County; Mary Knight, Worcester County Planning Commission; Mayor Richard Meehan, Ocean City; Town Administrator Terence McGean, Ocean City; and Mayor Natalie Magdeburger, Fenwick Island, Delaware. Ms. Shannon Healey of the Air and Radiation Administration (ARA) of the Maryland Department of the Environment (MDE or the Department) presided as Hearing Officer. Mr. Mario G. Cora presented ARA's hearing statement. US Wind, Inc. was represented by Mr. Dave Willson. Mr. George Quade from For the Record, Inc. served as the hearing's court reporter.

Comment Period:
The comment period was open from December 5, 2024 through March 17, 2025, following a request for a one-time 60-day extension to the initial 30-day comment period. Comments were received from the public both at the hearing and in writing during the comment period. Some comments included references to, or copies of, publications such as newspaper articles, blogs, or study reports. The Department reviewed these references as part of our effort to evaluate and respond to the comments. MDE's assessment of these materials are addressed in the responses to each comment below, as applicable.





Structure: Filtering for Big Categories

Using Gemini to filter for the most common types of concerns

- Multiple rounds of filtering
- Organize output in spreadsheet

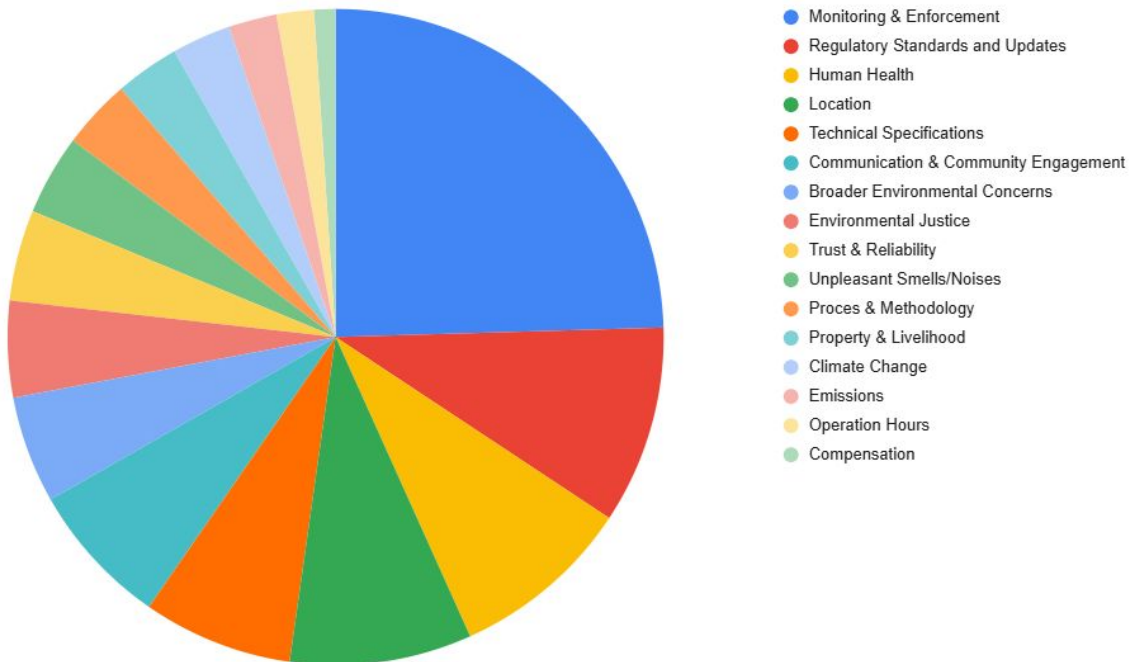
Major Categories ▾							
Source Document ▾	Comments ▾	Monitoring & Enforcement ▾	Human Health ▾	Environmental Justice ▾	New Category ▾	Uncategorized ▾	
US Wind	All comments pertaining to each permit					Comments that aren't relevant to ANY categories	
Vaughn Greene							
Aligned Data Centers							
Allan Myers							
Stancills							
Grace & Co							





The Big Categories

Most Common Concerns





Training: Developer Prompts

Specialized training tools to teach chatbot how to be [MDE's RTC chatbot](#).

- Created *and tested* with Gemini

	Prompt	
Location	<p>Draft an empathetic and firm response to concerns that the proposed operation is in a residential area.</p> <p>- Clarify MDE cannot specify location or base review on land use; permit approval is legally determined by environmental impact.</p> <p>- Clarify local issues (e.g., land use) are under local authority (e.g., Baltimore City) and undergo local review.</p>	





User Interface (UI) Prototype

CSS, HTML local web application created with Gemini

Provided Gemini with:

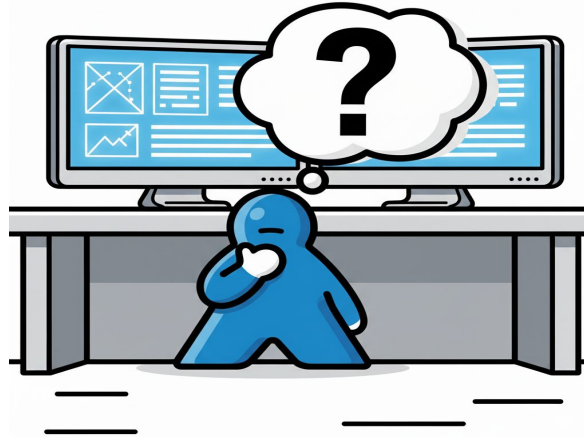
- Project requirements
- Screenshot of sample color scheme

The screenshot displays a web application titled "MDE AI Response to Comments Chatbot". At the top right is a "Restart Chat" button. The chat area contains two messages from the bot: a welcome message and a prompt to upload documentation. Below the prompt is an "Upload Comments Documentation" button with an upload icon. At the bottom is a text input field labeled "Type Message..." and a blue circular button with a white paper plane icon for sending messages.





Next Steps



- Partnership with MD Think
 - MD Think to set up the Sandbox Environment for testing purposes.
 - MD Think & MDE - Configure the Chatbot and Knowledge Base.
 - Internal Testing
 - Decision point - Where to host production - MD Think vs Internal to MDE





About Your Presenter

Ande Xin

- University of Massachusetts, Amherst
- Junior
- English, Political Science





Q&A



[Colorful multitude of
question marks, white
background.]

