



Maryland
Department of
the Environment

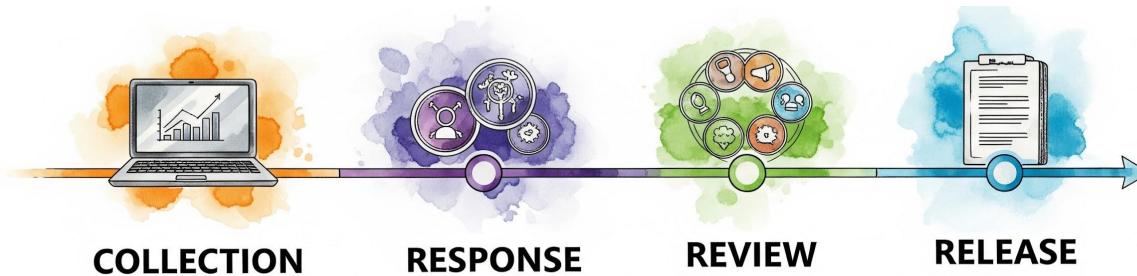
AI Use Demo: Response to Comments (RTC) Chatbot

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



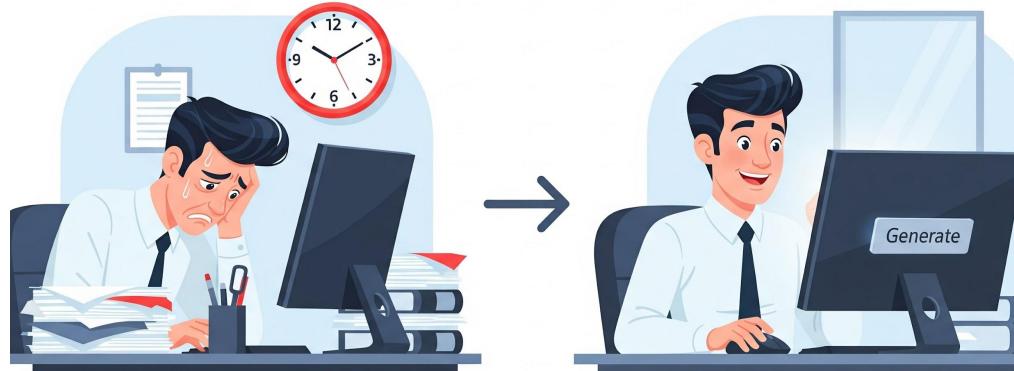


Why the AI RTC Chatbot?

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



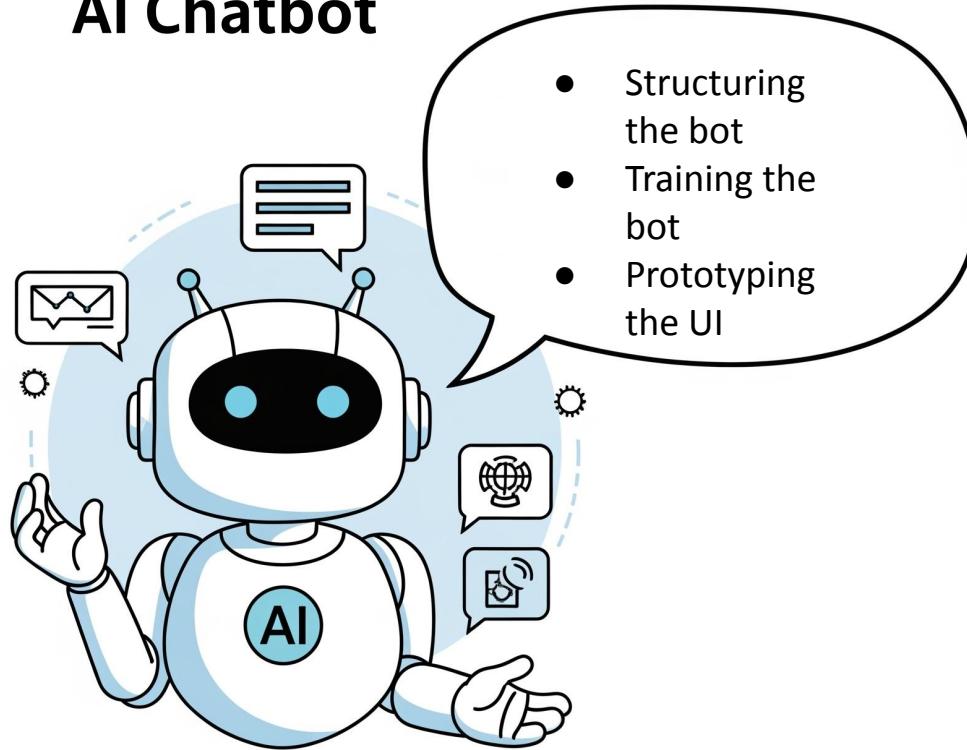
[Situation 1: stressed employee over desk computer. Arrow to Situation 2: relieved employee, computer with "Generate" button. "Vector art" style.]





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 Berino, Worcester County; Commissioner Joe Mitreccic, 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 Heafey of the Air and Radiation Administration (ARA) of the Maryland Department of the Environment (MDE or the Department) presided as Hearing Officer. Mr. Marc G. Cora presented ARA's hearing statement. US Wind, Inc. was represented by Mr. Dave Wilson. 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, 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

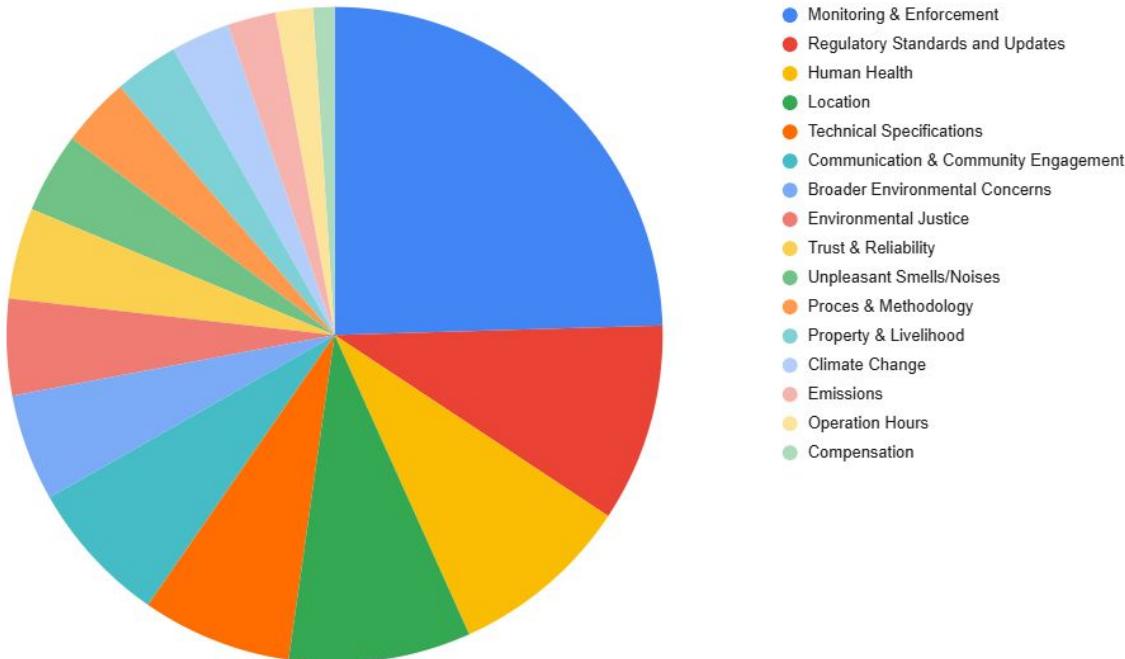
Major Categories	Source Document	Comments	Monitoring & Enforcement	Human Health	Environmental Justice	New Category	Uncategorized
	US Wind	All comments pertaining to each permit					Comments that aren't relevant to ANY categories
	Vaughn Greene						
	Aligned Data Centers						
	Allan Myers						
	Stancills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

MDE AI Response to Comments Chatbot C Restart Chat

Welcome to the MDE AI Response to Comments Chatbot!

Please upload any additional comments documentation, or begin generating responses.

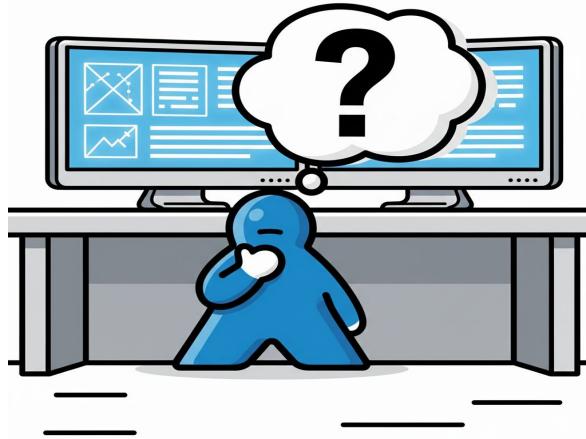
Upload Comments Documentation

Type Message... Send

A screenshot of a web-based chatbot interface titled "MDE AI Response to Comments Chatbot". The interface has a dark blue header bar with the title and a "Restart Chat" button. Below the header are two light blue rounded rectangular message bubbles. The top bubble contains the text "Welcome to the MDE AI Response to Comments Chatbot!". The bottom bubble contains the text "Please upload any additional comments documentation, or begin generating responses.". At the bottom of the interface is a light blue input field labeled "Type Message..." and a dark blue "Send" button with a white speech bubble icon.



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



[University of Massachusetts Amherst logo, school colors, white background.]





Q&A



[Colorful multitude of question marks, white background.]