PORTFOLIO | jon ross – conversational A.I. designer

Tools: VoiceFlow . Google Gemini + GCP . Alexa Developer Console . AWS . Adobe XD

Portfolio analysis by Google Gemini

jonross@jonrossdesign.com 215.873.0318 . LinkedIn . website . certifications . recent courses

CONVERSATION DESIGN PROJECTS

Chatbot Design

- Connecting Conversation Design Principles to a Design Workflow
- Chatbot for Conversation Designer Support

Prompt Design

• Using Google Gemini AI to build a system of tutors

VoiceFlow Prototypes

• *jonrossDESIGN* – with FAQ-style website guide chatbot

Adobe XD Prototypes

- *Top Priority* task scheduling speech-playback prototype
- Personal Trash Diary waste disposal awareness voice prototype

Alexa Skills

- Alexa Developer Console
 - Alexa Flashcard Skills question-answer pairs about conversation design and prompt engineering
 - Starship Space Facts Skill randomized retrieval of space science facts

UX DESIGN PROJECTS

Dashboard Design

- Independence Blue Cross

Login Screen Design

- IQvia - previously Wingspan Technologies

CONVERSATION DESIGN PROJECTS

Chatbot Design – A Chatbot Assistant for Conversation Designers

A series of projects emerged following an experiment with two types of data: fundamental concepts of conversation design and a workflow sequence designed to build an AI assistant, voice or text based. I had **<u>Google Gemini</u>** summarize the project descriptions:

"**The first project** involved using Google's AI Gemini to create a step-by-step process for building AI assistants. The process started by listing workflow steps and design principles, then matching them in a matrix. This matrix was exported to a spreadsheet, converted into a document, and finally used to generate a checklist for conversation designers.

The second project focuses on developing a chatbot assistant to help conversation designers streamline their workflow. The workflow is based on the one created by the <u>Conversation Design Institute</u> (CDI). The project is still in development but aims to enhance productivity by assisting in the creation of chat or voice-based AI assistants.

The third excerpt details the use case for the chatbot assistant for conversation designers. It highlights the challenges in conversation design, such as the need for quick prototyping and testing. The proposed solution is a chatbot assistant that streamlines the design process, improves user experience, and enhances collaboration. It would utilize NLP and ML technologies and integrate with existing design tools. The example scenario demonstrates how a designer could use the assistant to create and refine a chatbot for booking flights.

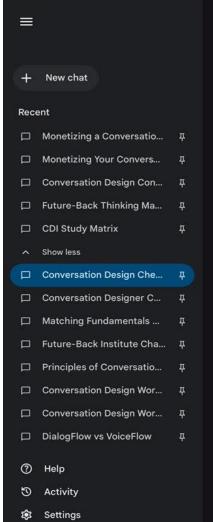
The entire sequence of events across these projects showcases a progression from establishing a theoretical framework for building AI assistants to developing a practical tool that aids in the design process. It starts with defining the workflow and principles, then moves towards creating a tool to assist with that workflow, and finally illustrates a specific use case for the tool, highlighting its potential benefits."

Chatbot Design – Connecting Conversation Design Principles to a Workflow Sequence

CDI workflow-design principles matrix

Google's AI Gemini was used in each of the following steps, which is a <u>sequence of</u> <u>prompts</u> that were created to produce results for each following step in the process. The intended result was to create a step-by-step process to follow to build an AI assistant, a chatbot and/or voice assistant.

- Listed (16) workflow steps.
- Listed (27) design principles.
- Matched design principles used in each workflow step to create a **16 x 6** matrix.
- Exported the matrix to a Google Sheets spreadsheet.
- Converted each row in the spreadsheet to a paragraph for a document.
- Used the document, the spreadsheet and the original matrix to generate a checklist for conversation designers.



Gemini Advanced -

We successfully created a comprehensive checklist! It's divided into three phases:

- 1. Discovery & Planning: Covering the initial research and understanding of the user, business needs, and technology landscape.
- 2. Design & Development: Focusing on crafting the conversation flow, dialogues, and testing the initial design.
- 3. Refinement & Optimization: Emphasizing real-world testing, data analysis, and iterative improvement.

Checklist Highlights:

- Google Workspace Integration: The checklist integrates Google Forms, Meet, Docs, Sheets, Slides, Drawings, and Analytics to streamline collaboration and data analysis throughout the design process.
- Actionable Tasks: Each checklist item is a clear, actionable task that guides designers through every stage of development, from technology assessment to AI training and error handling.
- Fundamentals Integration: The checklist incorporates CDI's core fundamentals (user-centricity, context awareness, etc.) and various communication principles to ensure a well-designed and effective conversation.

Overall:

This conversation demonstrates how a structured document can be transformed into a practical tool for professionals. By breaking down the CDI workflow into actionable tasks and integrating Google tools, we've created a resource that can empower conversation designers to create more engaging, user-friendly, and effective chatbots and voice assistants.

Enter a prompt here

⊕ \$

Philadelphia, PA, USA
 Based on your places (Home) * Update
 location

Gemini may display inaccurate info, including about people, so double-check its responses. Your privacy & Gemini Apps

Link to prompt-response pair

Reference: Conversation Design Institute (CDI)

III 🕘

Chatbot Design – A Chatbot Assistant for Conversation Designers

This project is currently in development

- <u>a simulation built using Google Gemini</u> >

The purpose of this project

- To enhance the conversation designer's productivity and workflow experience.

The workflow is based on one created by the Conversation Design institute (CDI). - Short video describing the workflow

The CDI Workflow – First Steps: (Links to Google Gemini descriptions below)

Requirements-Gathering Phase: (3 of 5 steps)

- Determining technology stack required
- Identifying User Personas
- Identifying the Bot Persona

Happy Path Design Phase: - not shown Detailed Path Design Phase: - not shown

This project aims to develop a chatbot assistant specifically designed to help AI design professionals streamline the creation of their own chat or voice-based AI assistants.

- continued on next page



Link to Conversation Design Institute (CDI)

Use Case: Chatbot Assistant for Conversation Designers - Generated by Google Gemini

Target Users:

- Conversation designers / Chatbot developers
- UX/UI designers working on conversational interfaces

Problem Statement:

Conversation design is an iterative process that involves continuous testing and refinement. Designers need a quick and efficient way to prototype dialog flows, test user interactions, and gather feedback. Manually creating and updating prototypes can be time-consuming and limit the ability to rapidly iterate on designs.

Proposed Solution:

A chatbot assistant specifically designed for conversation designers that provides the following features:

- **Dialog Flow Prototyping:** Quickly create and visualize dialog flows using a visual interface or natural language input.
- **User Simulation:** Test dialog flows by simulating user interactions and receiving realistic responses from the chatbot assistant.
- Feedback Collection: Gather feedback from testers or stakeholders directly within the chatbot assistant interface.
- **Data Analysis:** Analyze user interactions and identify areas for improvement in the dialog flow.
- **Collaboration:** Share prototypes and feedback with team members and iterate on designs together.

Benefits:

- Streamline Design Process: Accelerate the creation and iteration of dialog flows, saving time and effort for conversation designers.
- Improve User Experience: Test dialog flows early and often to ensure a smooth and engaging conversational experience for users.
- Enhance Collaboration: Facilitate collaboration among team members and streamline the feedback loop.

Implementation Details:

- **Technology Stack:** Utilize natural language processing (NLP) and machine learning (ML) technologies to power the chatbot assistant.
- **Platform:** Integrate the chatbot assistant with existing conversation design tools or platforms.
- **Data Privacy:** Ensure compliance with data privacy regulations when collecting and analyzing user interactions.

Example Scenario:

A conversation designer wants to create a chatbot that helps users book flights. The designer uses the chatbot assistant to quickly prototype a dialog flow, simulates user interactions to identify potential issues, and gathers feedback from stakeholders. The designer iterates on the design based on the feedback and tests the refined dialog flow again until it meets the desired user experience

Prompt Design – Creating a System of AI Generated Tutors

Generative Ai as an Instructor

I used **Google Gemini** to create a system of AI-powered tutors for topics related to prompt engineering and conversational AI design.

There are (14) Gemini-based AI tutors:

- Intro to Chain of Thought Prompting
- Future-Back Thinking
- Breakthrough Thinking
- AI-Powered Vision Boards
- Transformational Personal Coaching
- VoiceFlow Documentation
- Prompt Engineering
- Conversational Copywriting
- Conversational UX
- Supervised (Machine) Learning
- Natural Language Processing
- AI Training
- Conversational AI Design
- Prompt Chaining in VoiceFlow

≡ Bard Experiment

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+ New chat

Pinned

- 주 Buckminster Fuller's mindset of c...
- 후 Tutor for Conversation Design Ins...
- 耳 Intro to Future-Back Thinking
- Show less
- Online Course:: Future-Back Tran...
- 甲 Breakthrough Thinking:Defined
- Prompt Analyzer
- AI-Powered Vision Boards: Guide ...
- Intro to Transformational Persona...
- 7 Intro to Voiceflow
- Intro to VoiceFlow Documentation
- Intro to Prompt Engineering
- Π Intro to Conversational Al Copywr...
- Intro to Conversational UX
- Intro to Supervised Learning Con...
- д Intro to Natural Language Proces...
- 耳 Intro to AI Training
- Introduction to Conversatio...

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E,

Based on your places (Home) • Update location You are a highly experienced teacher with the ability to create simple step-by-step lessons on any subject. I want you to teach me conversational AI design one concept at a time. Give me short and engaging lessons to teach me the basics, building up to more advanced lessons over time. Don't just give me a list of information - explain the context and give me examples. Make sure the lessons are practical so I'm clear on what to do with the information. Do not repeat yourself. Make each lesson different from previous ones. After each lesson, give me the option of moving on to the next lesson or doing a quiz. Do not give me a quiz unless I ask for it. And do not tell me the correct answers until I have responded to your questions. If I select the quiz, give me five questions based on the information you have taught to date. Give me feedback on my answers. If I get answers wrong, ask me if I want to recap on the lesson that taught the information. Then carry on with the next lesson.

Conversational AI Design Lesson 1: What is Conversational AI Design?

Conversational AI design is the process of creating text- or speech-based interfaces that allow users to interact with computers in a natural and engaging way. Conversational AI systems are used in a variety of applications, including chatbots, virtual assistants, and voice assistants.

Example: When you use a chatbot to order food from a restaurant, the chatbot is able to understand your natural language requests and provide you with the information you need. The chatbot may also be able to answer your questions about the menu, the restaurant's location, or its hours of operation.

Practical application: Conversational AI design can be used to create more user-friendly and efficient interfaces for a variety of applications. For example, a conversational AI system could be used to create a customer service chatbot that can answer customers' questions and resolve their issues quickly and easily.

Quiz (optional):

Enter a prompt here

•)∣

Bard may display inaccurate info, including about people, so double-check its responses. Your privacy & Bard

VoiceFlow Prototype - jonrossDESIGN

FAQ-style Chatbot Use Case

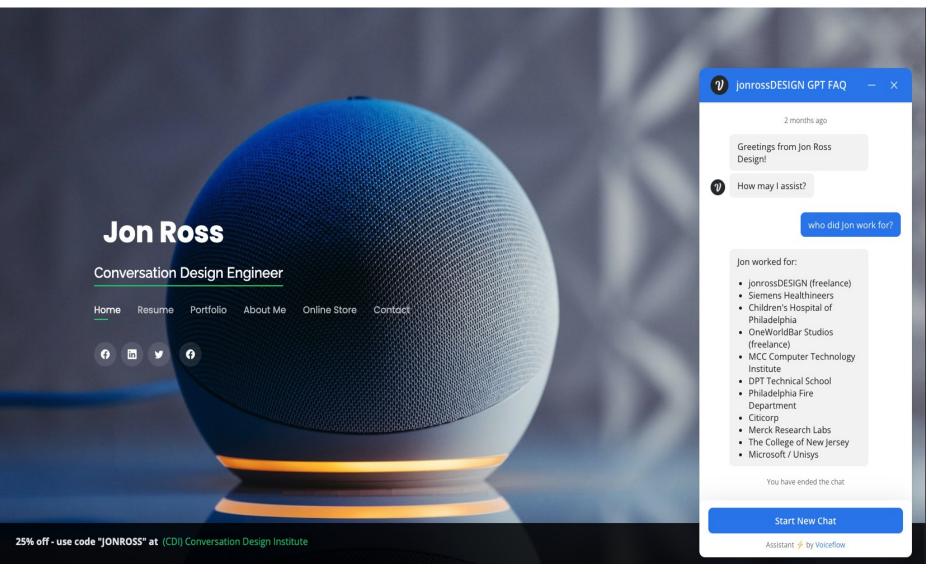
The client is a consultant / entrepreneur conversation designer and prompt engineer.

He needs to have an interactive website where visitors can pose questions to a **FAQstyle chatbot** or **voice assistant** as well as click links to visit the various pages available on the site.

This website chatbot will offer to summarize the client's technical skills, abilities and hear about the services he offers.

The use case for this chatbot is to serve as a resume assistant and website guide.

This prototyping system has a limited number of AI transaction tokens. The production NLU / LLM model of this prototype will be exported into **Google DialogFlow** which is a fully-managed GCP service. I'll use Vertex AI Studio to build the bot.



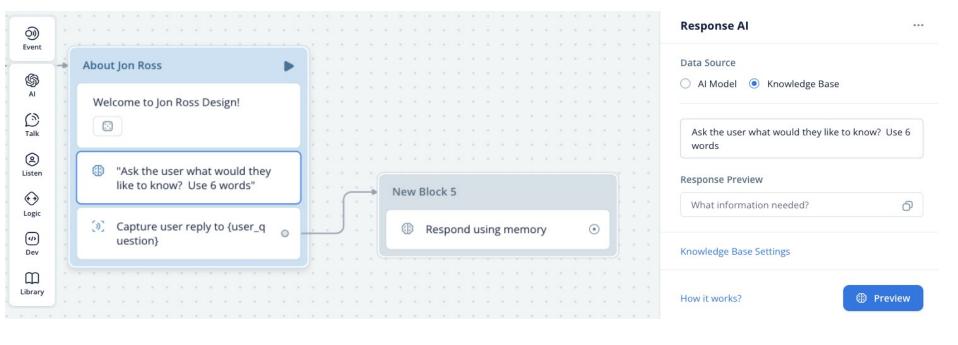
Link to Chatbot Site

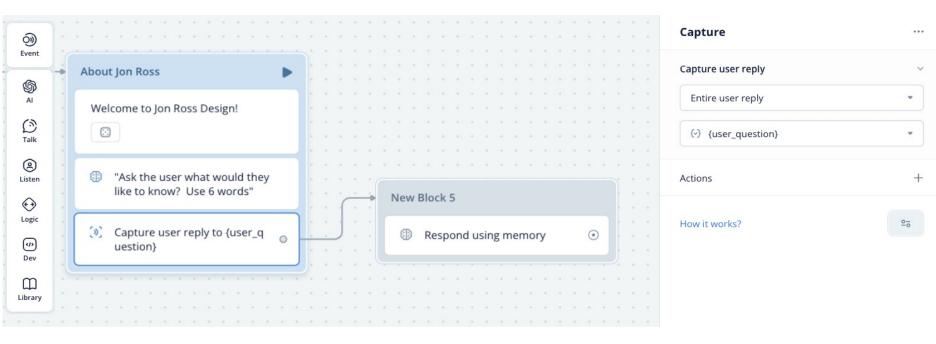
VoiceFlow Prototype

First the chatbot greets the user when its opened. Then a function is triggered to have the built-in **GPT** generate a prompt fo the user (ex: *How can I help you*?). The bot then "captures" a user response or utterance which is then used as a variable to query the knowledge base. A chatbot-specific knowledge base was created by uploading a <u>resume</u> and URLs to a <u>LinkedIn profile</u> and <u>web site</u> creating a vector database which is accessed by the GPT-powered Voiceflow **Response-AI** step (highlighted).

The user utterance, {user_question} or {last_utterance} is matched to an **Intent** in the chatbot's language model. An Intent is short for "Intention, or purpose of the user's choosing in the conversational flow".

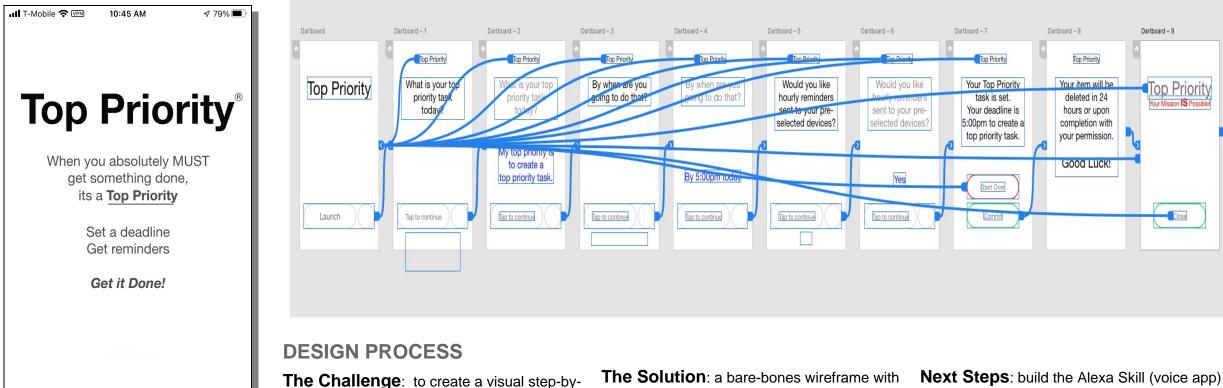
An Intent is an action that the user wants to perform. In this use case, to find and summarize information about the client. "Respond using memory" means using the {user_question} variable to respond.





Adobe XD Prototype

"Top Priority" Productivity Assistant



The Challenge: to create a visual step-bystep experience to test the user flow for a nonvisual voice application that will run on a smart speaker. **The Solution**: a bare-bones wireframe with speech playback functionality in Adobe XD.

Next Steps: build the Alexa Skill (voice app) in the Alexa Developer Console and/or the VoiceFlow tools for publishing in the Amazon Alexa Skill Store.

Link to Adobe XD prototype:

xd.adobe.com

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this requires signing into an Adobe account to experience the embedded audio. It works best on mobile browsers (known bug).

Adobe XD Prototype | MyTrashDiary Waste Reduction Voice Assistant

Overview

This project is based on a theory about unconscious behavior that most people display when they discard an item.

I'll call it "The Bottomless-Hole-in-the-Ground Syndrome". reducing the amount of our waste?
It's an ancient brain pattern and cognitive blind spot that continues to operate in the subconscious of most people.
The theory goes like this: humans have been throwing things away into a metaphorical hole in the ground since - who knows when! Actually those holes in the ground are physical and psychological as well.

Approach

The Problem Defined

 Human cognitive blind spots about trash have caused significant damage in our closed planetary ecosystem
 Empathizing with Customers
 Externalizing mindfulness and supporting the recycling-

- Externalizing mindfulness and supporting the recycling intentions of social influencers

Prototyping and Ideation

- Emphasizing future-oriented technology-based solutions **Deliverables**

- Design for a cloud-based support service as an opt-in personal waste reduction coach.

The Challenge

TO GENERATE AN ORIGINAL SOLUTION

What-if in the future, a conversational artificial intelligence were available to support and coach those of us interested in reducing the amount of our waste? Would anyone talk to it?

The Technology Used

All Amazon Echo devices, mobile apps and Internet-of-Things device with access to the Alexa A.I. service.

My Role

Role: UX researcher and UX/UI designer
Timeframe: (1) academic year
Platform: MacOS
Tools: Adobe XD, Fireworks and Photoshop, Amazon Alexa Skill Development tools

Results

A solution was developed based on users having personalized conversations with an Amazon cloud-based **A.I. as-a-Service** to support their efforts to create new disposal habits. Interactions could occur throughout the users day, at home through stationary Alexa devices and away from home using mobile devices and Alexaconnected wearables. Users would request reports from Alexa summarizing their trash disposal patterns, possibly requesting preemptive notifications to support new habits. **STATUS: Project is still In Progress**

Waste Reduction Assistant | MyTrashDiary is a location-aware voice-first app for users interested in tracking and reducing their personal waste

MyTrashDiary is an Amazon Alexa Voice App for tracking items being discarded by the user. This voice interface and it's companion screen version synchronize with Internet-of-Things (IoT) devices in the home of the user for tracking waste disposal events.

This project was for an assignment for the PENN XSD Design Program._ (link)_

A visualization of the extent of the plastic bottle pollution problem:

https://graphics.reuters.com/ENVIRONMENT-PLASTIC/0100B275155/index.html



Interaction Model

This shows how the Echo Loop is worn, spoken and listened to by the user. (<u>link to demo and review</u>)

(Amazon Echo Loop page)



INTERACTION DESIGN



Waste Reduction Assistant | MyTrashDiary is a location-aware voice-first app for users interested in tracking and reducing their personal waste

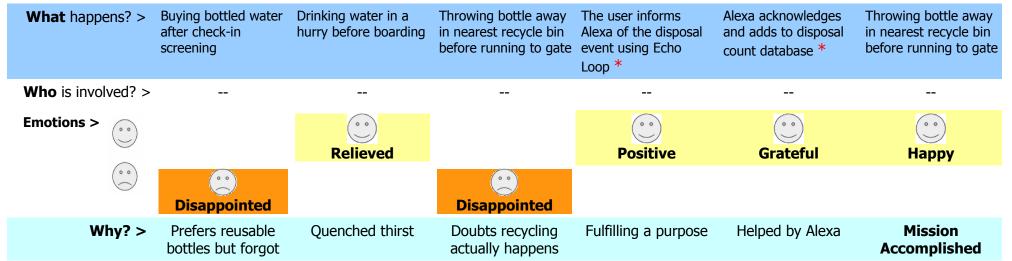
User Journey

The **MyTrashDiar**y is able to capture trash and recycling events from user input or by trash disposal receptacle detection and other Internet-of-Things devices in the home. The journey illustrated takes place when the user is away from home.

Customer Journey Map

User Flow

The User's Experience: Person feeling thirsty before boarding a departing flight at an airport (* location logged)



Design Goals

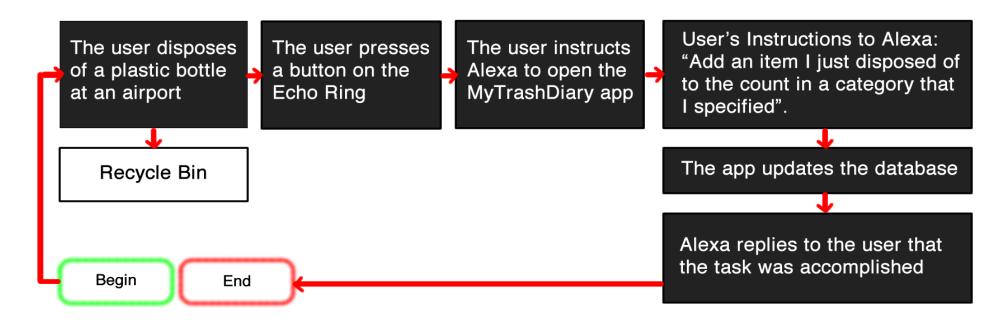
- To create a frictionless conversation-like user experience for someone interested in quantify -ing their waste generation and reducing the amount they throw away.

- To increase user awareness of their waste disposal events and locations specifically disposing of plastic bottles.

Link to user research survey:

- Plastic Bottles:

Trashed or Recycled?



Waste Reduction Assistant | MyTrashDiary is a location-aware voice-first app for users interested in tracking and reducing their personal waste

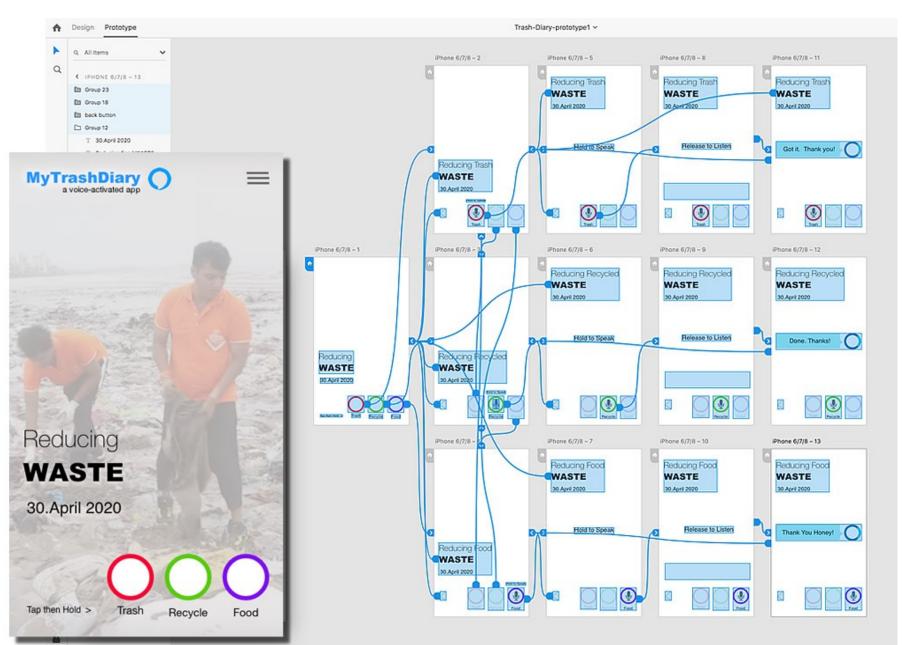
An Adobe XD prototype

A waste reduction coach is an entity that a user allows to track and monitor their behavior in order to suggest corrective actions to achieve the user's intended goals. This mobile app prototype will illustrate visually what the voice app does with speech when users report their waste disposal events. Users can also request summaries regarding disposal events over various periods of time: weeks, months, etc. The mobile app will also display graphs and charts on a dashboard page.

STATUS:

The Alexa-enabled Adobe XD prototype is in development. **This project is still In progress...**

- link to mobile prototype



Alexa Skill Development |

What is an Alexa Skill?

"The Alexa Skills Kit (ASK) is a software development framework that enables developers to create content, for Alexa called **skills.**" - <u>Amazon</u>

Alexa Skills:

Conversation Design Flashcards (<u>link</u>)

- Based on "*term:definition pairs*" generated by Google Bard and ChatGPT, related to **conversation design**.

Prompt Engineering Flashcards (link)

- Based on "*term:definition pairs*" generated by Google Bard and ChatGPT, related to **prompt engineering**.

MyTrashDiary (currently in development)

- an event recorder / behavior change coach style of interaction for users to track and record their trash disposal of waste indicating waste type, time and geolocation

Starship Space Facts (link)

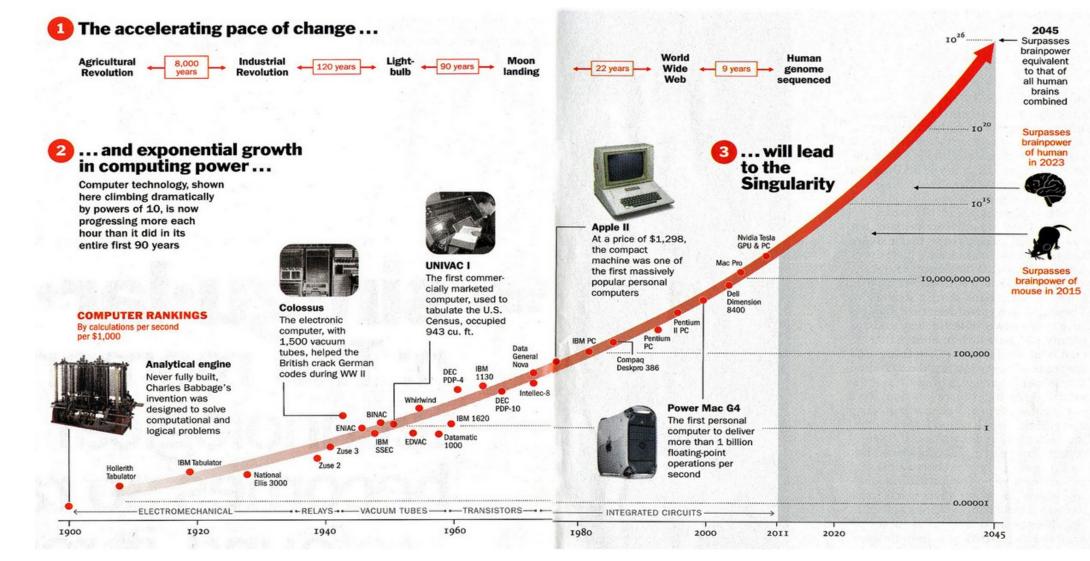
 this skill responds to users requests for random facts and descriptions of space phenomena as-if from aboard a speeding starship

	SKILL NAME	LANGUAGE	MODIFIED	STATUS	ACTIONS
R.	Prompt Engineering Flashcards Copy Skill ID	English (US)	2023-07-13		Go to Blueprints console
A.	Conversation Design Flashcards	English (US)	2023-06-16		Go to Blueprints console
?	Conversation Design Store Custom • Copy Skill ID	English (US)	2022-12-29	• In Dev	Choose action ~
D	My Top Priority Custom - Copy Skill ID	English (US)	2022-11-08	• In Dev	Choose action ~
?	My Trash Diary Custom - Copy Skill ID	English (US)	2020-01-05	• In Dev	Choose action ~
Ð	Starship Space Facts Custom - Copy Skill ID	English (IN)+4	2018-03-15	● Live Go to Alexa Skill Store [2]	Choose action V

The LAW OF ACCELERATING RETURNS and CONVERSATIONAL AI DESIGN

Conversational AI will tap into the *Exponential Growth of Computing Power* currently underway to support and serve users over their entire lifetimes.

The Law of Accelerating Returns is an evolutionary process – this means that a) the rate of technological innovation is exponential.and b) that as technological progress is made throughout shorter and shorter timespans,



Source: <u>Ray Kurzweil</u> The Law of Accelerating Returns, <u>https://www.kurzweilai.net/the-law-of-accelerating-returns</u> | <u>Big Think video</u>

Conversational AI – An Inquiry about the future

Prompt submitted to Google Gemini:

"How will the field of conversational AI design be affected by 'The Law of Accelerating Returns'"?

It's response:

The Law of Accelerating Returns posits that the rate of technological progress increases exponentially over time. This law has significant implications for conversational AI design, affecting it in several ways...

• • •

In summary, the Law of Accelerating Returns will profoundly impact the field of conversational AI design. It will lead to faster innovation, expanded capabilities, broader applications, and new ethical considerations. Designers and developers will need to adapt to this accelerating pace of change and ensure that conversational AI is developed and used responsibly for the benefit of society

- https://g.co/gemini/share/0b0f74cd0268

I suspect it'll be like trying to chase an accelerating train that reaches escape velocity sooner than we expect.

UX DESIGN PROJECTS

Independence Blue Cross

OVERVIEW

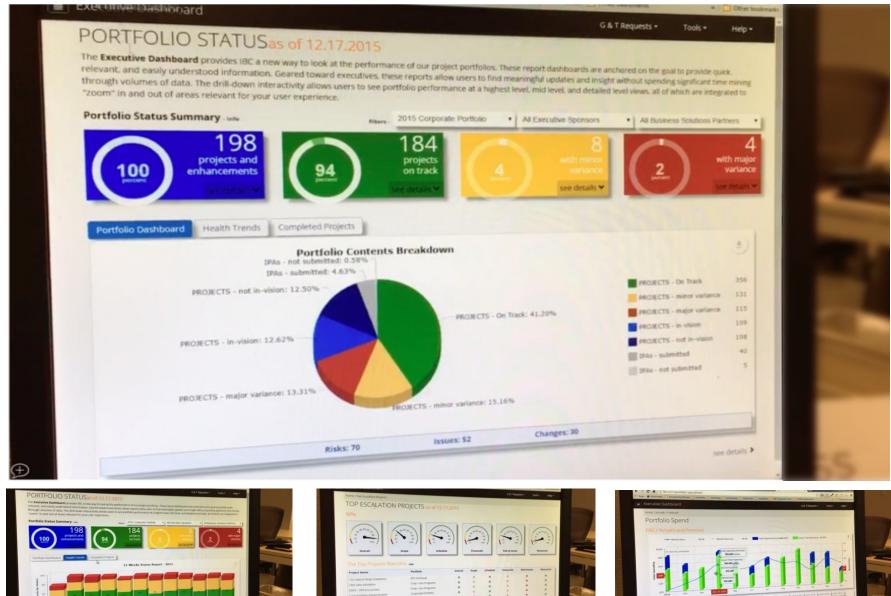
"The **Executive Dashboard** project provides IBX with a new way to look at the performance of our project portfolios."

The Design Process

- gather requirements from users
- create hand drawn sketches on paper web page templates
- make isometric drawings that include layers and slide-in or dropdown menus
- build clickable pdf mockups
- use the Bootstrap framework for layout and develop site architecture
- use JavaScript libraries for graphic display from JSON file data libraries
- populate the layout with JS graphic components linked to JSON libraries
- Role: UX designer / UI developer Timeframe: 8-months Platform: Windows 10 Tools: Balsamig Mockups, Sublime Text,

Bootstrap, JavaScript libraries: D3.js and amCharts.com.

Data visualization prototype for internal desktop-only access at IBX Headquarters in Philadelphia (video)



Independence Blue Cross

IBX / IBC Executive Dashboard Documentation describing the project was created for the development team to complete the implementation phase.

STATUS: Project was completed

Link to the documentation

- link to project documentation



The Executive Dashboard

The **Executive Dashboard** provides IBC with a new way to look at the performance of our project portfolios. These report dashboards are anchored on the goal to provide quick, relevant, and easily understood information. Geared toward executives, these reports allow users to find meaningful updates and insight without spending significant time mining through volumes of data. The drill-down interactivity allows users to see portfolio performance at a highest level, mid-level, and detailed level views, all of which are integrated to "zoom" in and out of areas relevant for your user experience.

IQvia Single Sign-On Menu | Final prototype developed: desktop version

OVERVIEW

The objective was to create a common look-and-feel for several previously developed web applications as well as a single sign-on screen for users of multiple applications. Mockups and prototypes were created using Adobe XD, Premiere Pro and Photoshop as well as HTML5 / CSS3 and JavaScript. Digital assets for the application codebase were created using Figma, Sketch and InVision

DESIGN CHALLENGE

Studio.

To develop interactive prototypes and working code for interfaces that would create a consistent experience across multiple web applications.

Role: UX / UI designer Timeframe: 1-year Platform: MacOS Tools: Adobe XD, Sketch, Figma, InVision, and Intelli-J IDE

STATUS: Project Completed

Close X

Login Options

OpenVPN Style: A centered login form that resembles the Open VPN panel currently used. >

Typewriter Text Effect: A centered blinking cursor moves from left-to-right, requesting user input.

Conversational Style:

You can choose our speech-to-text service to enter your login credentials. The password field is text-only.

ackground Blur with Overla

Form input fields appear in sequence against a blurred background.

Wingspan Technologies

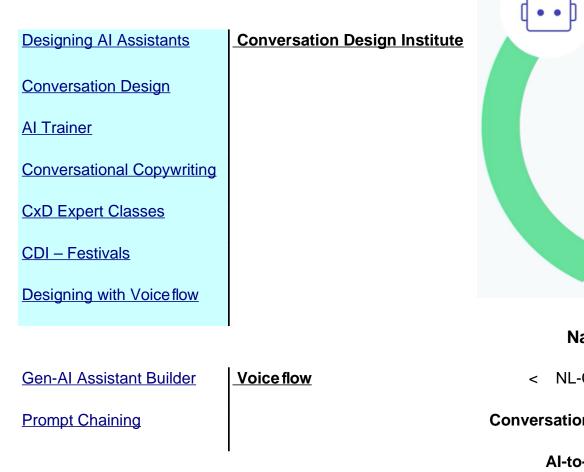
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COURSES TAKEN (2023-2024)

Courses Taken

Or in-progress in 2023-2024



EdX Intro to ChatGPT Prompt Engineering and Adv. GPT LinkedIn Learning UX for Voice Intro to Conversation AI Conversation Prompt Engineering: Talk to AI design **GPT-4: New GPT Release** Intro to Prompt Engineering Next Generation AI Research and Write with AI **Generative AI for Business Leaders** Natural Language (NL) < NL-Creation | NL-Understanding > **Becoming an AI-First Leader Conversation Design | Prompt Engineering** What is Generative AI? Al-to-Human | Human-to-Al **Udemy** Prompt Engineering Practice Tests **Conversation Design Engineering** Link to Certificates

Coursera Prompt Engineering for ChatGPT

jon ross – conversational A.I. designer

Tools: VoiceFlow . Google Gemini + GCP . Alexa Developer Console . AWS . Adobe XD

jonross@jonrossdesign.com 215.873.0318 . LinkedIn . website . certifications . recent courses