

# MEMOTEXT LLM as MSL concept development

July 2025



Trusted since 2012, MEMOTEXT is a platform for co-creation of digital patient engagement and digital therapeutics.

**+31.4%**  
JAMA  
Published Med  
Adherence

**88%**  
Member/patient  
retention

**50+**  
Digital Patient  
Engagement  
Programs

**3.2**  
Avg # of days  
patients refill  
early

**50%**  
Reduction in  
early treatment  
discontinuation

**2hr/week**  
Time savings  
per Case  
Manager





# MEMOTEXT Toolkit and Marketplace

Create your solution or choose from our marketplace of validated solutions and digital therapeutics.

Try out the Toolkit



Visit the Marketplace



**Vanderbilt Univ. Medical Center:** Accessible SMS T2 Diabetes Wellness, Care Coord + Med Adherence



**CAMH : Mental Health Engagement Enhancement & Navigation**



**CAMH-MEMOTEXT JV** Digital Therapeutic App & Clinical Portal for **Severe Mental Illness (SMI)**



**Peri-natal & early parenting SMS** evidence-based education & support with Univ. of British Columbia



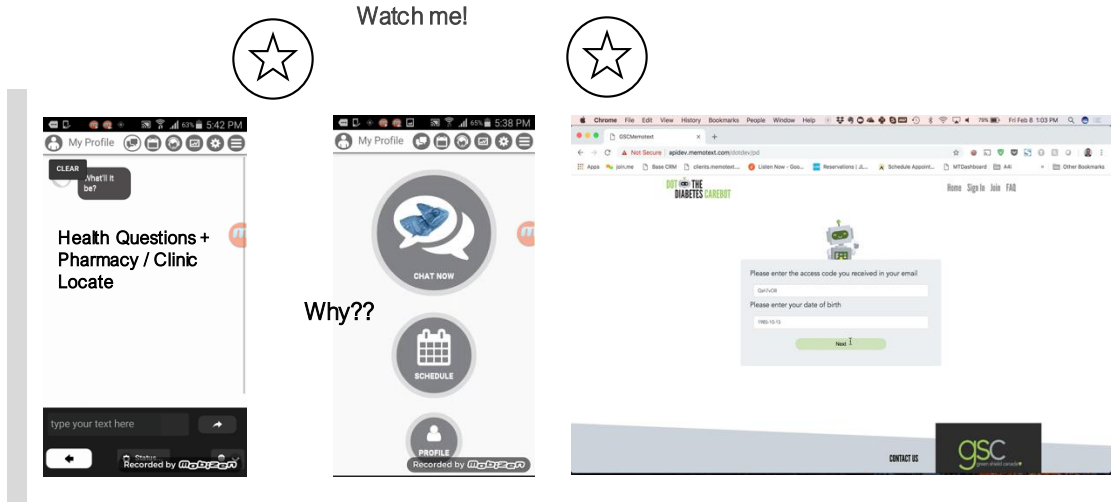
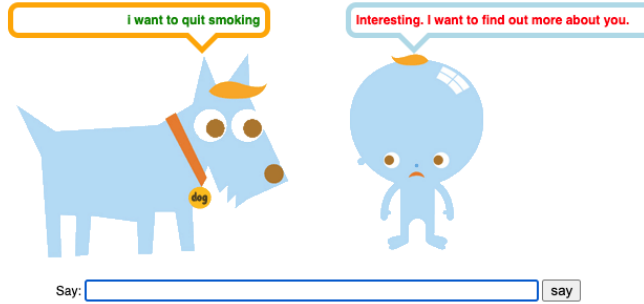
**SE Health Aging at Home - Amazon Alexa & IVR Check-ins for Seniors** - Call Center Escalations



**SMS Text Chatbot** for Type1 Diabetes built with The Hospital for Sick Children (**SickKids Toronto**)



# MTx H<sup>x</sup> in AI



Anything LLM



| AIML   | Mobile + Facebook   | Web Based  | RASA & Python   |
|--|---|--|---|
| <p>AIML JQuery</p> <p>Engine based on AIML which MEMOTEXT modified</p> | <p>AIML from scratch</p> <p>AIML in Mobile and Facebook</p> | <p>Javascript/JQuery</p> <p>Fully Scripted Bot as Intake</p> | <p>Using Rasa X</p> <p>We can facilitate tool or consider building from scratch</p> |



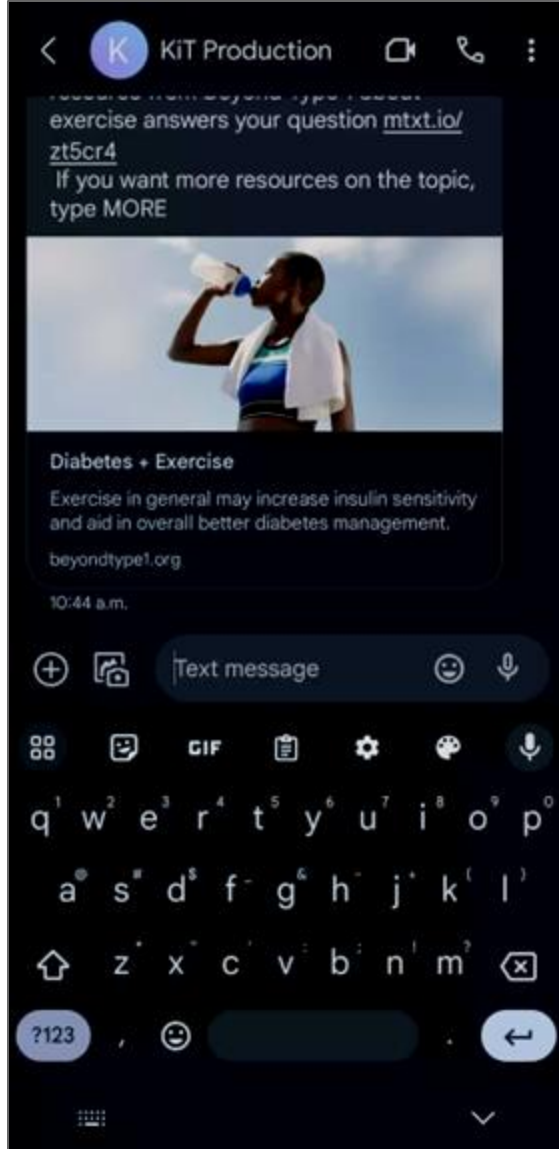
# Advanced SMS and Chatbot Features in Action

## KiT

### Keeping in Touch

Care coordination and educational text messaging program for youth diabetes management.

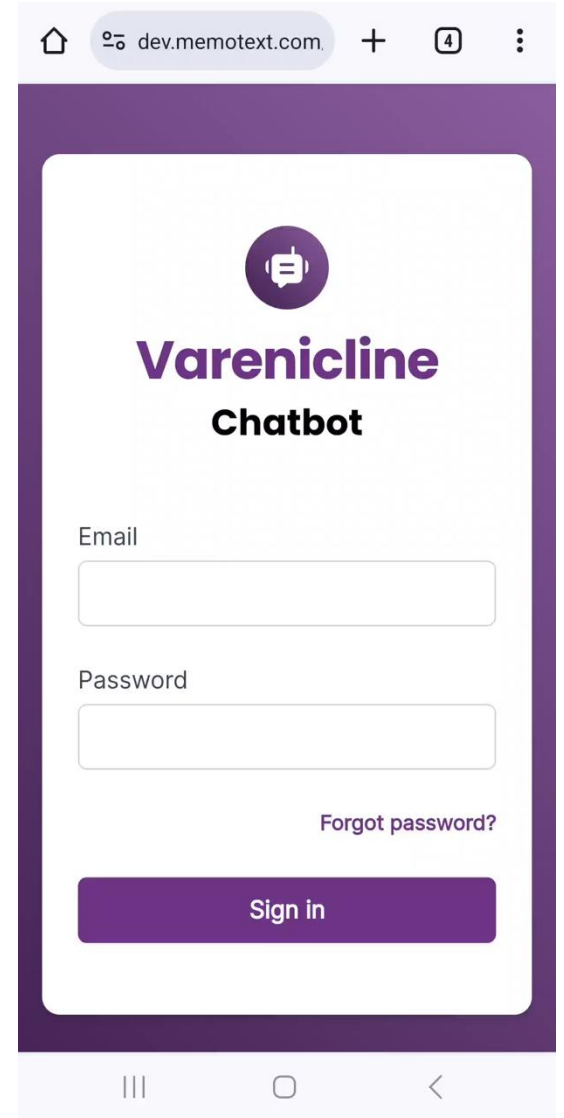
Demonstrating appointment setup using SMS prompt #appointment with appointment data collection using survey builder.



## Varenicline Chatbot

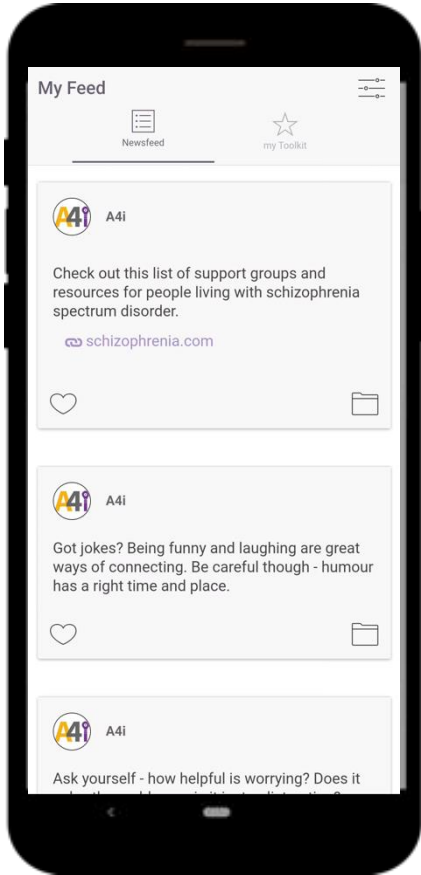
Smoking cessation chatbot to help accompany varenicline medication.

Advanced chatbot interactions and guided questions and data collection directly in the chatbot.





# NLP in Patient Support (Risk Detection)



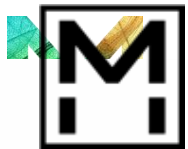
**Identify escalation opportunities** 

Flagged and set in pending state.  
Clinic notified on sentiment and risk identification for review.

| ORIGINAL TEXT FROM PATIENT   | ACTION BY CASEMANAGER | REASONS FOR DECLINE      | SENTIMENT (SCORE) | EMOTION (PROBABILITY)         |
|--|-----------------------|--------------------------|-------------------|-------------------------------|
| I think the LA Sierra TANF office of Social Services is so full of it if they didn't want to help people and children they should have chosen a better job. What's crazy is you get a Hispanic worker racists against her own race. It's a SHAME | Declined Post         | Negativity, Identifiable | Negative (-0.82)  | Surprise (0.30), Anger (0.23) |
| I am so overwhelmed with my new diagnosis and change of medication. I am so anxious and uneasy . I can't seem to get out of this funk of being being numb .  | Declined Post         | Help                     | Negative (-0.74)  | Fear (0.95) Joy (0.01)        |
| I had a good time at the Angeles game last night, it was great for my mental health now I'm off to my DBT group everyone have a great day  | Approved Post         | NA                       | Positive (+0.90)  | Joy (0.99) Sadness (0.00)     |
| Wow its been a long week loving the new job having fun learning to show the compassion i have from within.   | Approved Post         | NA                       | Positive (+0.93)  | Joy (0.99) Surprise (0.019)   |

Auto Approve Low Risk

Expedite post reviews using clinical model for low risk.





# SECURE HOSTED LLM Engagement

Care Coordination, Patient Support,

# Digital Patient Engagement Starts Here

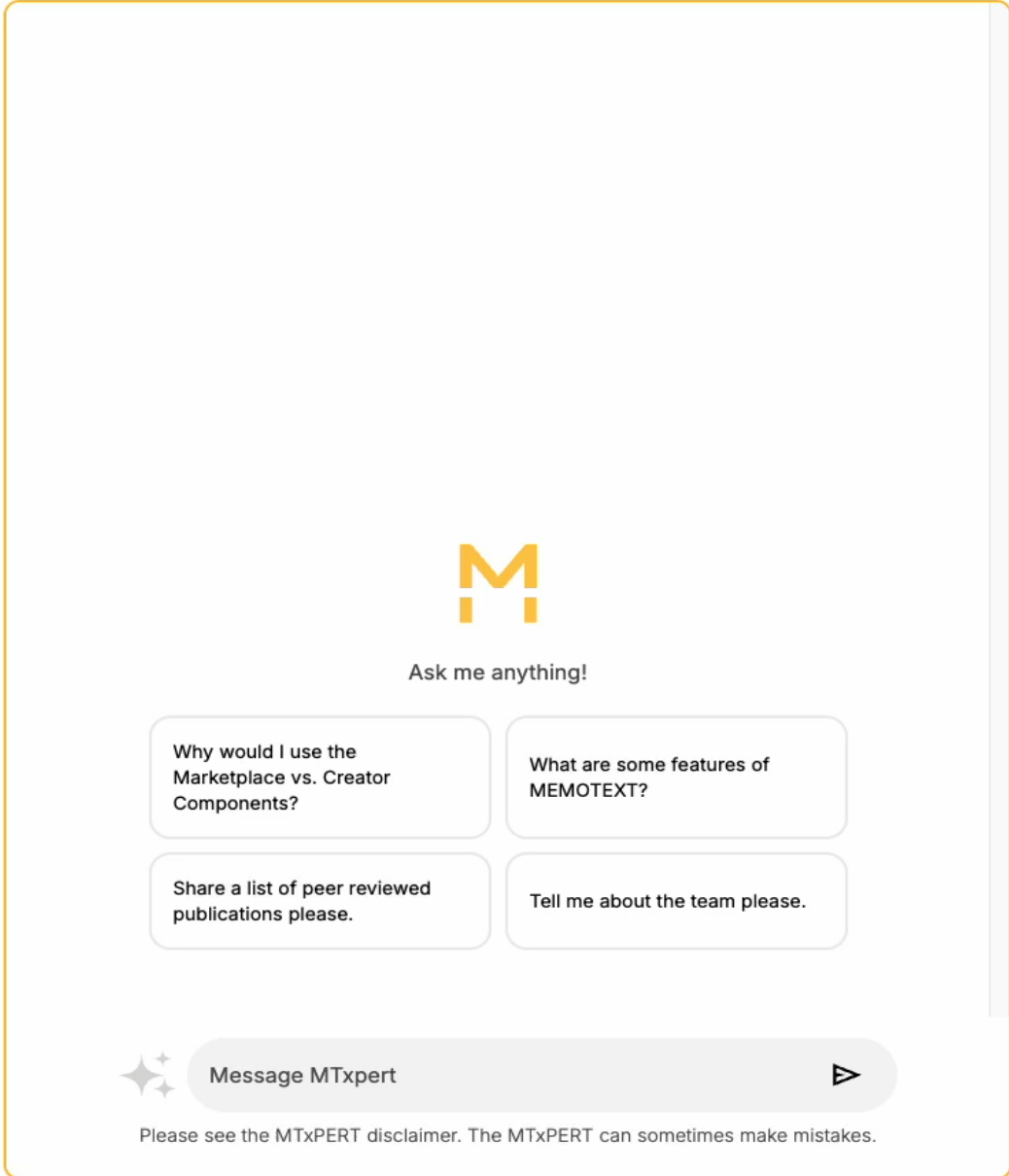
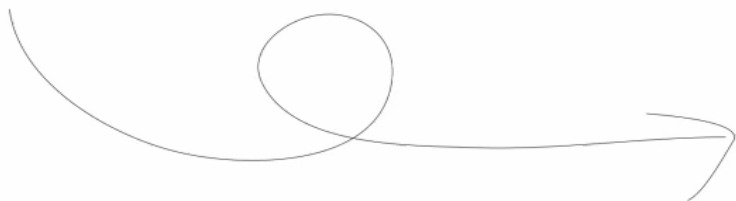
Create or implement digital patient engagement solutions. MEMOTEXT uses personalized, data-driven communications to boost treatment adherence and health outcomes for different health conditions and populations.


 Browse our Marketplace

 Create a Patient Engagement Solution

Not sure where to start? Chat with our MTxPERT.

By using this tool, you acknowledge that you have read and understand our [disclaimers](#).







Ask me anything!

Why would I use the Marketplace vs. Creator Components?

What are some features of MEMOTEXT?

Share a list of peer reviewed publications please.

Tell me about the team please.

 Message MTxpert 

Please see the MTxPERT disclaimer. The MTxPERT can sometimes make mistakes.



## Responsibly integrate AI into healthcare engagement.

Problem Definition

Identify impactful use cases (personalized messaging, care coordination).

Governance Framework

Build trust with governance, compliance, and oversight.

Safety

Prioritize patient safety, transparency, and consent.

Implementation

Use quality data for adaptive, bias-free AI systems.

Best Practices

Measure outcomes and refine through feedback.

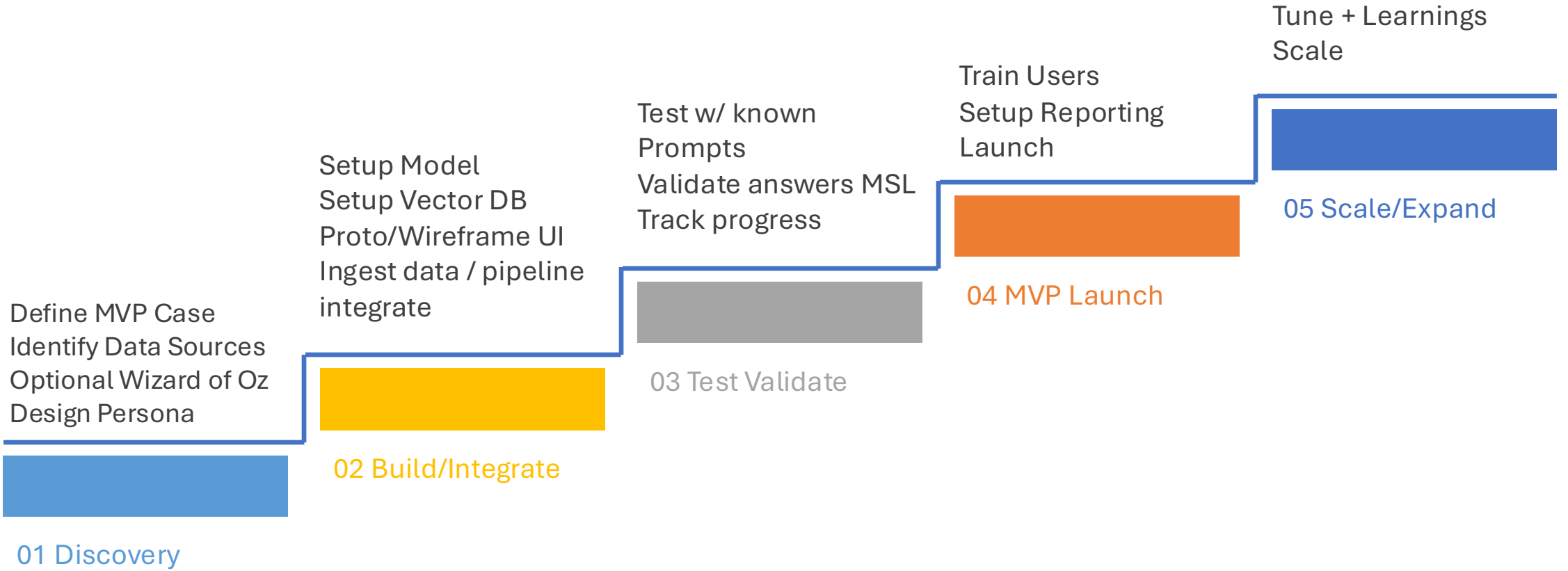
KPIs / Reporting

Governance and trust are essential as AI evolves to improve patient care and outcomes.

Bias/Equity



# RAG/LLM Deploy





# Setup/Build

## Requirements Groundwork

- chatbot persona to align expectation on the interaction between the users and the chatbot
- clean, analyze data for training data set, documentation, formatting
- legal requirements for consent, disclaimers and other legal texts

## Model /LLM RAG setup

- RAG-based system (Retrieval-Augmented Generation) with approved documents only (no open internet crawling)
- Training will focus on known queries + negative/guardrail prompts
- Responses will include standard legal disclaimers
- System will avoid off-label inquiries and hallucinations via validation pipelines
- LLM-as-judge architecture may be used for clinical safety — i.e., one LLM checks the other's response

## Client Expectations

- Provide details on expected target, training data-sets, demographic and treatment phase of those users
- Provide an outline of expected conversations and additional actions required by the chatbot, this will also include the initial list of canned messages
- Provide expected persona for chatbot eg is the supposed to be a friend, advisor, coach, challenger? What kinds of language is expected from the bot?
- Legal disclaimer language EN/FR – translation verification and FR language resources



# Optional WoZ

## Wizard of Oz Processing

### Wizard of Oz Prototyping – 1-2 months (optional)

- MEMOTEXT provide secure live-chat web application to imitate chatbot functionality
  - **User: Web interface accessible through desktop or mobile device**
  - **Agent: Web interface accessible only through desktop**
- Evaluate the performance of conversation flow and intent detection
  - Update conversation flow with edge cases and additional conversation threads as needed
- Create preliminary data set of expected conversation responses

### Client Expectations

- All recruitment will be handled by the client
- SME intervention here would be critical to ensure responses to be expected with exact amount of time commitment dependant on complexity of the conversation flow required, engagement here will be consistent during this period of time



# Chat – WoZ example

Online Live Chat with an Agent and Canned Messages

✕ End chat

Welcome to the Georgian LiveChat you will be connected with a mental health ally shortly!

Hello there before we get started I would just like you to know that I won't know your identity, but if at any point during our chat I become concerned for your safety or the safety of others, I will notify staff in the Georgian College Student and Learning Services department. A staff member may use MemoText to identify you, in order to keep you and others safe and assist you in accessing suitable services. <<<Please keep in mind that I am not a trained mental health professional, and this chat should not be seen as a substitute for professional mental health services>>>>.

Hi could you help me with my student loans?

Your message...

Visitor

03 m. 46 s.

Welcome to the Georgian LiveChat you will be connected with a mental health ally shortly!

Hello there before we get started I would just like you to know that I won't know your identity, but if at any point during our chat I become concerned for your safety or the safety of others, I will notify staff in the Georgian College Student and Learning Services department. A staff member may use MemoText to identify you, in order to keep you and others safe and assist you in accessing suitable services. <<<Please keep in mind that I am not a trained mental health professional, and this chat should not be seen as a substitute for professional mental health services>>>>.

Hi could you help me with my student loans?

System assistant  
Visitor has joined the chat!

Rich text editor toolbar with icons for bold, italic, underline, strikethrough, link, unlink, text color, background color, bulleted list, numbered list, indent, outdent, undo, redo, and other chat functions.

You are not chat owner, type with caution.

Canned messages  
Navigate with ↑ and ↓ Enter. Esc to quit.

Chat sidebar with options: Student Agents, Bot, Edit chat, Close chat, Delete chat, Choose recognition language, Screen sharing, New window, Print, Copy messages, Copy link, Chat owner, Transfer chat, Visitor profile (Computer, 72.140.xxx.xxx, 12312313213213, Online profile, Previous chats, //livechat.memotext.com/client/dashboard, //login.microsoftonline.com/, en-US, Send mail, Redirect to contact form, Redirect user to survey, Redirect to another url, Screenshot, Block visitor, Times, Chat duration - 01 h. 03, Waited - 58 m. 31 s. m.



# Prototype Conversational Experience/LLM Development

Building- test-train Prototype Conversational Experience 1-3+ months

## Prepare engagement scope and exclusions

Group sample queries under intents such as:

*Medical information request*

*Downloadable resources*

*Clinical trial info*

*Access programs / grants*

*Off-label inquiries (to be suppressed)*

Define MVP use case (e.g., top 20 questions for a single product)

Identify data sources (PI sheets, scientific publications, FAQs)

Determine compliance requirements (audit logs, disclaimers, hosting)

## Action Steps:

- Collect known questions from MSLs, support, and field teams
- Cluster examples into well-defined intent categories
- Document and version each intent group
- Ensure clear examples per intent (5–10 minimum)

## Watch For:

- Inconsistent phrasing across intents
- Same example accidentally assigned to multiple intents



# Prototype Conversational Experience/LLM Development

## Build & Integrate

- Set up vector database for document embedding
- Customize front-end chat UI and integrate into target platform/site
- Integrate with data sources (local PDFs, SharePoint, CRM, etc.)
- Implement RAG pipeline for grounded responses
- Apply disclaimers and citation engine
- Test with actual clinician prompts
- Validate answer accuracy with MSL team
- Track false positives, citation coverage, hallucinations



# Additional Required Functionality

## Surveys

- Quantitative and qualitative surveys can be conducted within chatbot
- During the build incorporate conversation paths to handle the activation, completion of forms and when a user does not fill in form.
- Responses from surveys automatically tracked and stored in database for further analysis.

## Optional - Outbound Reminder notifications

- Types of reminder notifications?
  - Some based on engaging in motivating conversation and others based on the information collected in the information gathering stage
- Reminders sent via SMS or push notifications after days and times collected from user.
- Integration with CRM/SFMC

## Triggering Salesforce Journeys

- Based on LLM user interactions (e.g., asking about a download), system could push tagged events into Salesforce

# Thank you

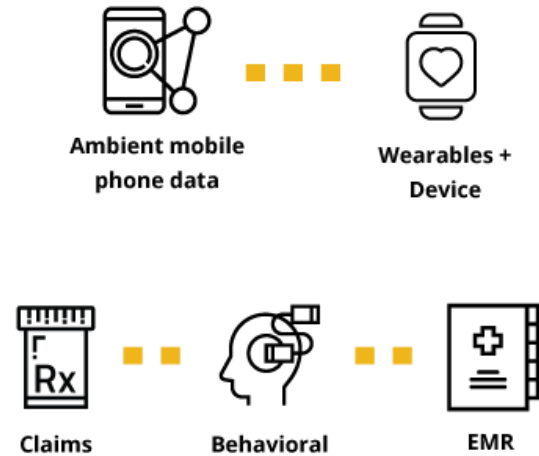
## Data & Evidence Driven



## Multi-Channel Communications



## Actioning Critical Health Data



## Relevant Across Multiple Healthcare Stakeholders



Thank you !!  
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