Alpha Presentation
Leveraging OpenAI for Business Analytics

The Capstone Experience

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Project Overview

• Web application with three main features:
  ▪ Chatbot
  ▪ Call Summarization Tool
  ▪ Plan Selector Quiz

• Utilizing OpenAI and machine learning algorithms
System Architecture

Back End:
- OpenAI
- Flask
- LangChain
- DynamoDB
- S3

Front End:
- React
- HTML
- CSS
- JS

Web Application

Google Cloud

User
Call Summarization Tool

<table>
<thead>
<tr>
<th>Date</th>
<th>Call Subject</th>
<th>Keywords</th>
<th>Transcript File</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023-10-08</td>
<td>Coverage</td>
<td>Medication, Coverage, Migraines</td>
<td>transcript01.txt</td>
</tr>
<tr>
<td>2023-10-13</td>
<td>Provider</td>
<td>Mental health, Psychologist, In-network</td>
<td>transcript03.txt</td>
</tr>
<tr>
<td>2023-10-10</td>
<td>Billing</td>
<td>Billing, Coverage, Lab tests</td>
<td>transcript22.txt</td>
</tr>
<tr>
<td>2023-10-10</td>
<td>Medical bill</td>
<td>Surgery, Billed services, Elective procedures</td>
<td>transcript77.txt</td>
</tr>
<tr>
<td>2023-10-23</td>
<td>Billing</td>
<td>Colonoscopy, Billing, Payment options</td>
<td>transcript47.txt</td>
</tr>
<tr>
<td>2023-10-04</td>
<td>Medication</td>
<td>Cost increase, Prescription drug, Medication</td>
<td>transcript48.txt</td>
</tr>
<tr>
<td>2023-10-12</td>
<td>Billing</td>
<td>Medical bill, Charges, Payment options</td>
<td>transcript36.txt</td>
</tr>
<tr>
<td>2023-10-15</td>
<td>Coverage</td>
<td>Coverage, Prescription, Zytoxin</td>
<td>transcript27.txt</td>
</tr>
<tr>
<td>2023-10-24</td>
<td>Update</td>
<td>Job change, Enroll, New employer</td>
<td>transcript43.txt</td>
</tr>
<tr>
<td>2023-10-01</td>
<td>Coverage</td>
<td>Letter, Coverage, Implications</td>
<td>transcript40.txt</td>
</tr>
<tr>
<td>2023-10-26</td>
<td>Surgery</td>
<td>Knee replacement, Scheduled surgery, Financial aspects</td>
<td>transcript70.txt</td>
</tr>
<tr>
<td>2023-10-20</td>
<td>Coverage</td>
<td>Type 2 diabetes, Coverage, Management</td>
<td>transcript03.txt</td>
</tr>
<tr>
<td>2023-10-05</td>
<td>In-Network</td>
<td>In-network specialist, medical condition, rheumatologist</td>
<td>transcript84.txt</td>
</tr>
<tr>
<td>2023-10-01</td>
<td>Medication</td>
<td>Lipidex coverage, Dosage, Affordability</td>
<td>transcript69.txt</td>
</tr>
</tbody>
</table>

Call Subject Trends for October

- Coverage: 19%
- Provider: 15.9%
- Billing: 11.3%
- Medical bill: 10.2%
- Surgery: 9.9%
- In-Network: 7.7%
- Update: 5.2%
- In-Network: 4.8%
- Surgery: 4.8%
- In-Network: 3.7%
- Surgery: 3.7%
- In-Network: 3.7%
- Surgery: 3.7%
- In-Network: 3.7%
- Surgery: 3.7%
- In-Network: 3.7%
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- In-Network: 3.7%
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- In-Network: 3.7%
- Surgery: 3.7%
- In-Network: 3.7%
- Surgery: 3.7%
Chatbot
Plan Selector Quiz

Question 6

Do you travel frequently, either within or outside the United States?

Select an option
Plan Selector Quiz Results

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1: What is your current age?</td>
<td>Under 65</td>
</tr>
<tr>
<td>Q2: Are you currently enrolled in Original Medicare (Part A and Part B)?</td>
<td>Yes</td>
</tr>
<tr>
<td>Q3: Do you have any specific healthcare needs or chronic conditions that require ongoing care? Please specify.</td>
<td>Eye care</td>
</tr>
<tr>
<td>Q4: Are you currently taking any prescription medications? If so, please list them or describe your general medication needs.</td>
<td>No</td>
</tr>
<tr>
<td>Q5: What is your preferred maximum monthly premium for a Medicare plan?</td>
<td>$30 - $100</td>
</tr>
<tr>
<td>Q6: Do you travel frequently, either within or outside the United States?</td>
<td>Yes</td>
</tr>
<tr>
<td>Q7: Are you interested in additional benefits like dental, vision, or fitness programs?</td>
<td>Yes</td>
</tr>
<tr>
<td>Q8: Would you like coverage for prescription drugs (Medicare Part D)?</td>
<td>Yes</td>
</tr>
<tr>
<td>Q9: Do you have a preferred network of doctors and healthcare providers you would like to continue seeing?</td>
<td>No</td>
</tr>
<tr>
<td>Q10: What is your ZIP code or the area where you primarily receive healthcare services?</td>
<td>48381</td>
</tr>
</tbody>
</table>
What’s left to do?

• Chatbot

• Call Summarization Tool

• Plan Selector Quiz

• Finalize front-end design in accordance with HAP marketing guide
Questions?