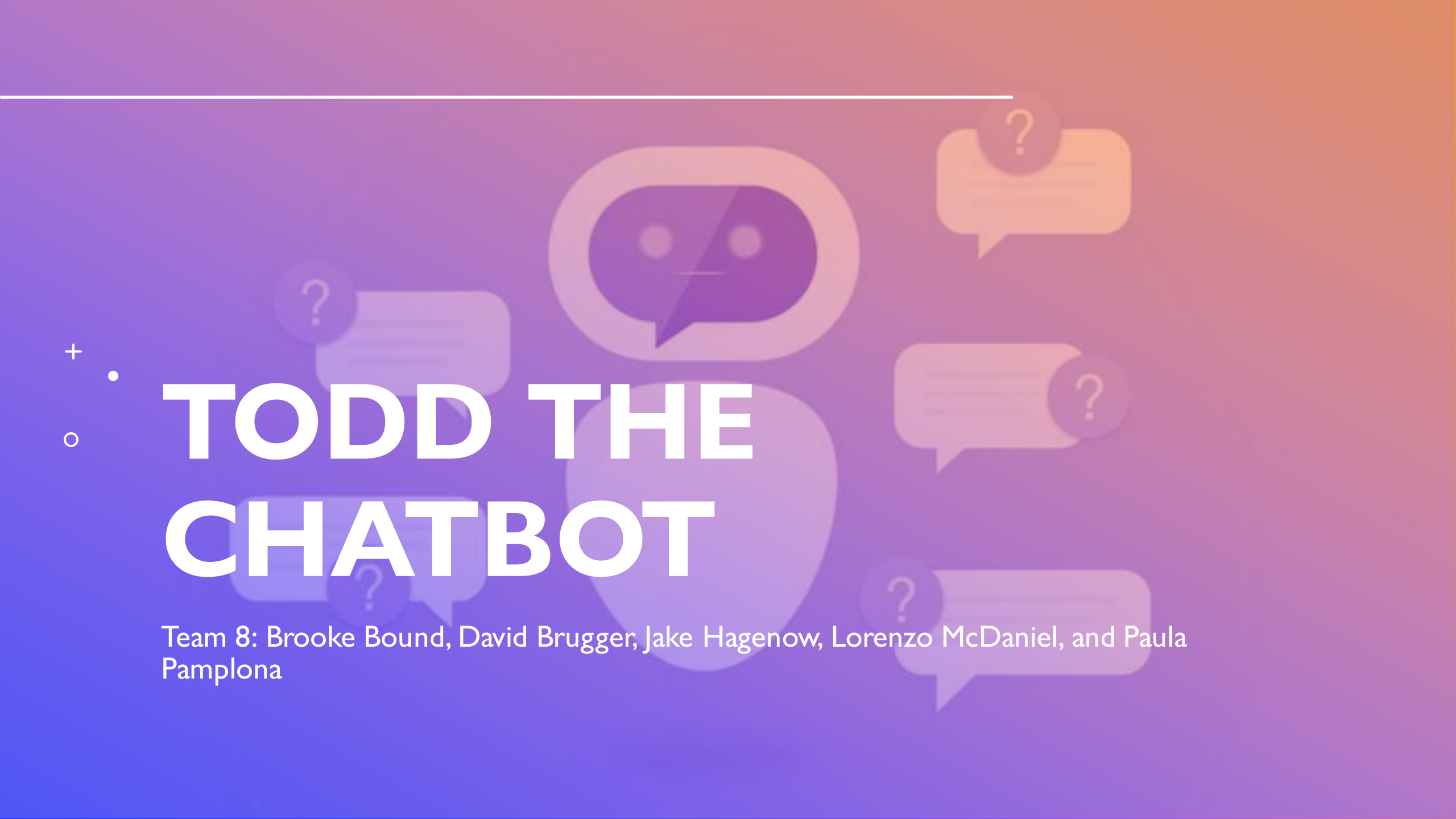
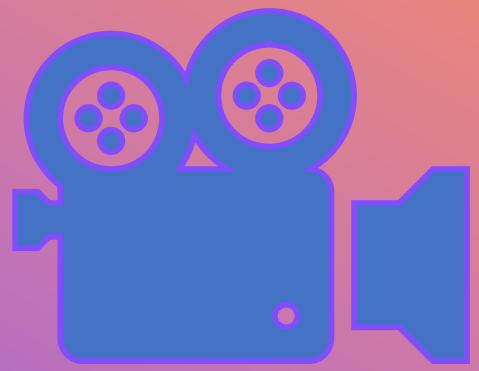


TODD THE CHATBOT

Team 8: Brooke Bound, David Brugger, Jake Hagenow, Lorenzo McDaniel, and Paula Pamplona

About Our Project

- We created Todd, a chatbot that can answer questions about a business it has been trained on.
- We successfully trained Todd to accurately be able to answer predetermined questions that the user would give it.
- Todd can respond to predetermined text patterns, but he did not do so well on questions that deviated from the training sets.
- We performed qualitative and quantitative tests on Todd and found that the 100% accuracy we were getting was misleading.
- On average Todd was accurate only 39%-49% of the time on information that he had never seen before.
- Using a loop, a confusion matrix, and a cross validation technique known as repeated sub-sampling, we were able to determine which categories Todd struggled with, and which categories he performed well in.



DEMO OF OUR CHATBOT

(insert video of demo)

What tools we used

- Jupyter Notebook
  - Tensorflow and keras
    - Used to build Todd the Chatbot
  - JSON
    - Used to store our training data
    - Contains phrases that are likely used to be asked by the user
  - Numpy
    - Used to create arrays from our data
  - IPhython.display
    - Used to display our results
  - Matplotlib.pyplot
    - Used to plot our results
- Anaconda
  - Tkinter
    - Used to build GUI

CHALLENGES

- Accurately training Todd with new data
  - The accuracy lowered when new data was added to train Todd.
  - This was mostly due to the total number of sentences for each intent was low.
  - Since the testing set aside sentences from the intents, there would need to be multiple entries with key similarities so that it wouldn't be thrown off by outliers.
  - Our first idea was to have a broad amount of intents so that the bot could answer a wide range of questions.
  - Focusing on having more intents took time away from reinforcing preexisting intents.
- Deciding on the scale of the bot
  - Intended on having the bot be generalized to answer many questions, but it proved to be more difficult to train a bot of this type then first anticipated.
  - Our intent to have the bot act as customer service for a store was pushed to the side as we tried to get it to work with the general intents file we were using.
- Building GUI
  - Finding the best program to use for a user interface.
  - Tried using Anvil, but there was an issue with the link and connecting it to the Jupyter Notebook.
  - Found that using Anaconda was the best option and worked perfectly.