



Black Sand Capital Chat Bot

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Background Black Sand Capital

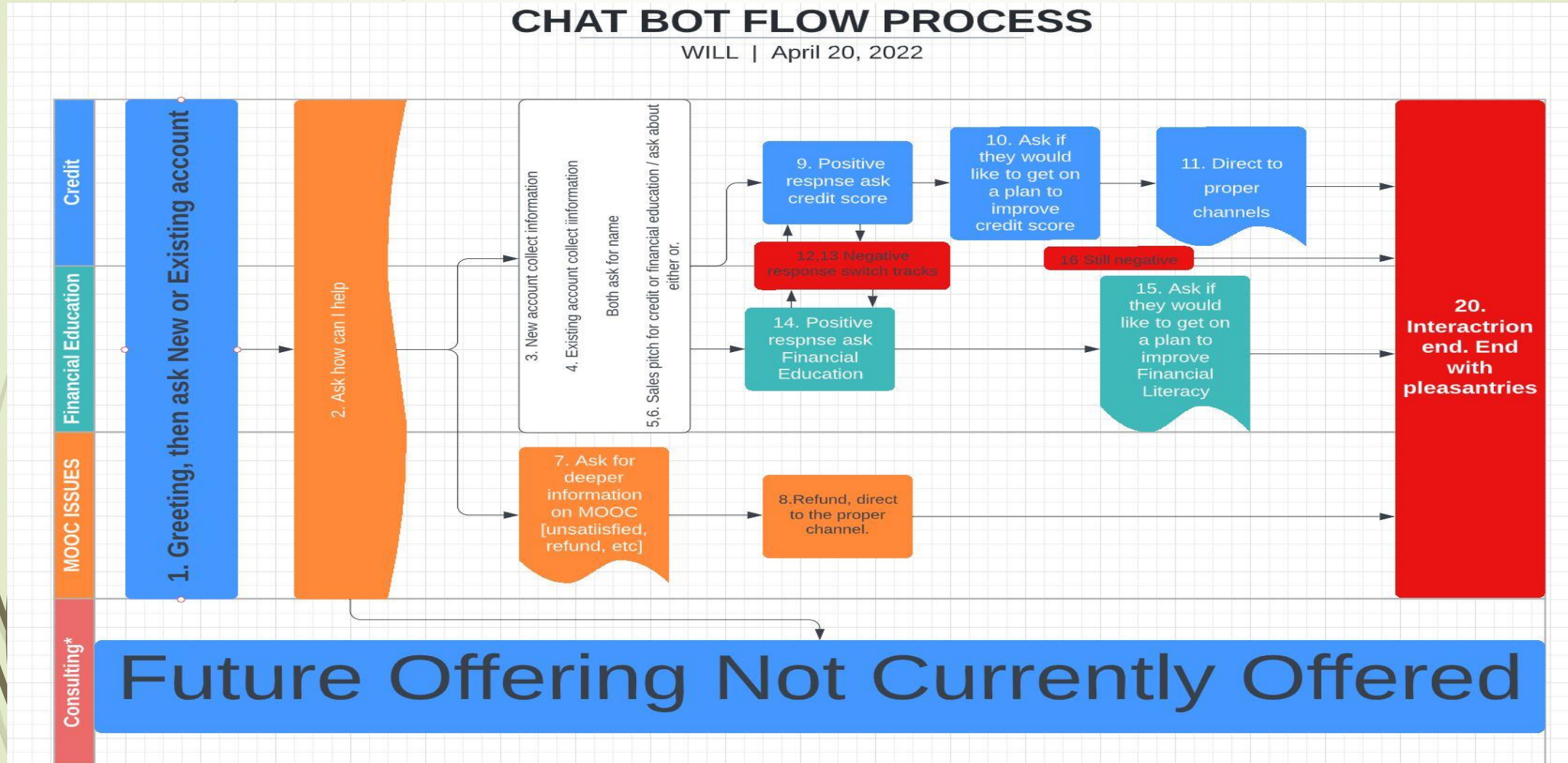
- Created a financial company in 2021
- Goal is to help promote financial literacy among the black community
- End goal is to create a bank which serves the black community nationally.
- Came about through my trading profits and investments.



Motivation

- Own black sand capital a financial literacy company that will be grown into a bank
- Wanted to automate the customer support
- Also wanted to advertise and see if I could generate more leads with an automation as well
- Makes the site seem more professional with an AI driven component that easily
- Automate some of the database entries and interactions through a chatbot

Proposed Conversational Flow Diagram



app.slack.com/client/T03D21TTPD4/D03CVCTF1AT

Search 5 - CMPE 252 Chatbot Central

5 - CMPE 252 Cha...

Drafts 2

Browse Slack

Channels

- # chatbots
- # discussion
- # general
- # random
- + Add channels

Direct messages

Apps

- will_god**
- + Add apps

will_god

Messages About

Today

Will Miller 12:48 AM
hey

hey

will_god APP 12:50 AM
Hey! How might I be of assistance to you today. The areas that I may be of assistance are:
MOOC Issues, Financial education, or Credit.

MOOC Issues Credit Questions Financial Educatiaon Refunds or Unsatisfied Other

I see you need help with credit issues / scores. Is this correct?

Will Miller 12:50 AM
yes

will_god APP 12:51 AM
Are you a new or existing customer?

Will Miller 12:51 AM
new

will_god APP 12:51 AM
Please enter your name, so that we may get back to you on starting a potential membership with us.

Will Miller 12:51 AM
my name is william miller

will_god APP 12:51 AM
Thank you. Is william miller the correct name?

Will Miller 12:51 AM
yes

will_god APP 12:51 AM
Please enter your email.

Will Miller 12:51 AM
email is willmiller155@gmail.com

will_god APP 12:51 AM
Thank you. Is the following correct for your email contact willmiller155@gmail.com.

Will Miller 12:51 AM
yes

what credit is offered

will_god APP 12:51 AM
We offer credit repair, and consultation services to help build your credit.

Will Miller 12:51 AM
thanks

will_god APP 12:51 AM
Is there anything else I can help you with, or would that be all for today.

B I

Send a message to will_god

+ Aa

Quick Chat Bot Demo



Conversational Flows

- Three main offered products; Financial Education, Credit help, MOOC's
- Able to go through a whole conversation path with either product and switch tracks
- Asks for your name and email to store in database
- Able to ask for a stock quote, and receive the current intraday spot price
- Ask for the weather in a specific city and receive the weather in that city
- Accomplished through 30 – 50 utterances, api calls, and database storage

Stories Example

- Used check point to create a point to start off for multiple stories so I don't have to create each one new and over again.

```
- story: path 1 - full track credit
  steps:
    - intent: greet
    - action: utter_inquire_assit
    - checkpoint: check_question_path
    - intent: inquire_credit
    - action: utter_credit
    - intent: affirm
    - action: utter_new_or_existing
    - intent: new_user
    - action: utter_coll_name
    - intent: data_collect_name
    - action: utter_confirm_name
    - intent: affirm
    - action: utter_collect_email
    - intent: data_collect_email
    - action: utter_confirm_email
    - intent: affirm
    - action: utter_what_to_know_credit
    - intent: inquire_credit
    - action: utter_credit_expand
    - intent: thanks
    - action: utter_recheck
    - checkpoint: redirect_or_finish

- story: path 2 - full track fin ed
  steps:
    - checkpoint: check_question_path
    - intent: financial_education
    - action: utter_financial
    - intent: affirm
    - action: utter_new_or_existing
    - intent: new_user
    - action: utter_coll_name
    - intent: data_collect_name
    - action: utter_confirm_name
    - intent: affirm
    - action: utter_collect_email
    - intent: data_collect_email
```

```
import requests

def quote(ticker):
    api_address='http://api.marketstack.com/v1/intraday?access_key=74fab9f9b749678d85ed28326e5d5702&symbols='
    ticker= 'nvda'
    url = api_address + ticker
    print(url)
    json_data= requests.get(url).json()
    quote=json_data['data'][0]['open']

    return str(quote)
```

Actions Example

API call that is used to fetch the quote for the extracted ticker


```
## If you'd like to customize it, uncomment and adjust the pipeline.
## See https://rasa.com/docs/rasa/tuning-your-model for more information.

- name: WhitespaceTokenizer
- name: RegexFeaturizer
- name: LexicalSyntacticFeaturizer
- name: CountVectorsFeaturizer
- name: CountVectorsFeaturizer
  analyzer: char_wb
  min_ngram: 1
  max_ngram: 4
- name: DIETClassifier
- name: EntitySynonymMapper
- name: ResponseSelector
  epochs: 100
  constrain_similarities: true
- name: FallbackClassifier
  threshold: 0.3
  ambiguity_threshold: 0.1
- name: "DucklingEntityExtractor"
  url: "http://localhost:8000"
  dimensions: ["time"]
  timeout : 3
```

Feature Extraction

Used duckling ran through a docker container and Spacy installed into the venv



Things don't like to play well
with each other



Computers are dumb but
smart at the same time with
nlp



For a fully conversational bot
to be ready in production
must take a lot of time



YAML file format is a pain



Sitting down and developing
a conversational flow
doesn't usually mean its an
effective conversation



Challenges and Lessons Learned



Fin