TEAM PEERLESS

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CY-BOT PEERLESS

SYSTEM DESIGN PROPOSAL

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TABLE OF CONTENTS

PROJECT SCOPE

The client has made a request for the creation of a chat bot that can be integrated into the Slack communication platform. A chat bot is a program that simulates a conversation with human users. These have many practical uses, such as answering questions, retrieving data, scheduling tasks or reminders, intelligent responses to basic conversational inputs, and can even include easter eggs to amuse the users.

The chat bot is a useful tool because it can replace several apps on the user's mobile device. For example, this chat bot accepts a Cy-Ride bus terminal or stop number and responds with the estimated time of arrival for any Cy-Ride buses that will arrive in the next 15 minutes. This eliminates the need to download the MyState app or other bus apps. It is also able to provide weather information when requested by the user. Information includes temperature, wind speed, and wind directions.

The client also requires us to add another source of information that can be accessed by the chat bot. The choice for the secondary data source is up to the team members. Overall, the client would like us to be creative, funny and create a personality for our chat bot that will be appealing.

As a group, we plan on attempting to implement bus route maps, machine learning for more accurate results and personalized experience, and even adding a sport information component that retrieves information on current sports games.

SYSTEM FUNCTIONALITY

The following are the detailed functions for our chat bot:

- Provide information on buses arriving at the given station/terminal for the next 15 minutes.
    - Using a variation of different phrases, CyBot will be able to tell you a lot of different information about any given bus stop like:
        - The number of different routes that service the selected stop
        - Names of the routes that service the route
        - The buses that will be servicing the stop in the next 15 minutes
        - What time the bus will be arriving?
        - How long you should be expecting to wait for the next bus
        - An attempt to display a map of the route selected
        - CyBot will make an attempt to learn about stops you frequent at to have them ready for you faster. This will make for a more fluid and personable experience.

- Provide weather information for Ames, Iowa.
    - Using a variation of different phrases, CyBot will be able to tell you:
        - The temperature in Fahrenheit
        - Wind speed and direction
        - Advice on what to wear according to the corresponding weather
        - Humorous comebacks to the corresponding weather

- Help with CyBot
    - This function will show all commands that CyBot will answer to, other than the hidden easter eggs.
    - Needs to be clear and detailed enough where anybody would be able to use the application flawlessly.

- Developer selected Easter Eggs
    - A classic game of HORSE where the first person to receive all letters lose. The user would have to guess and be correct to win the game.
    - Other humorous antics that the user would find enjoyable

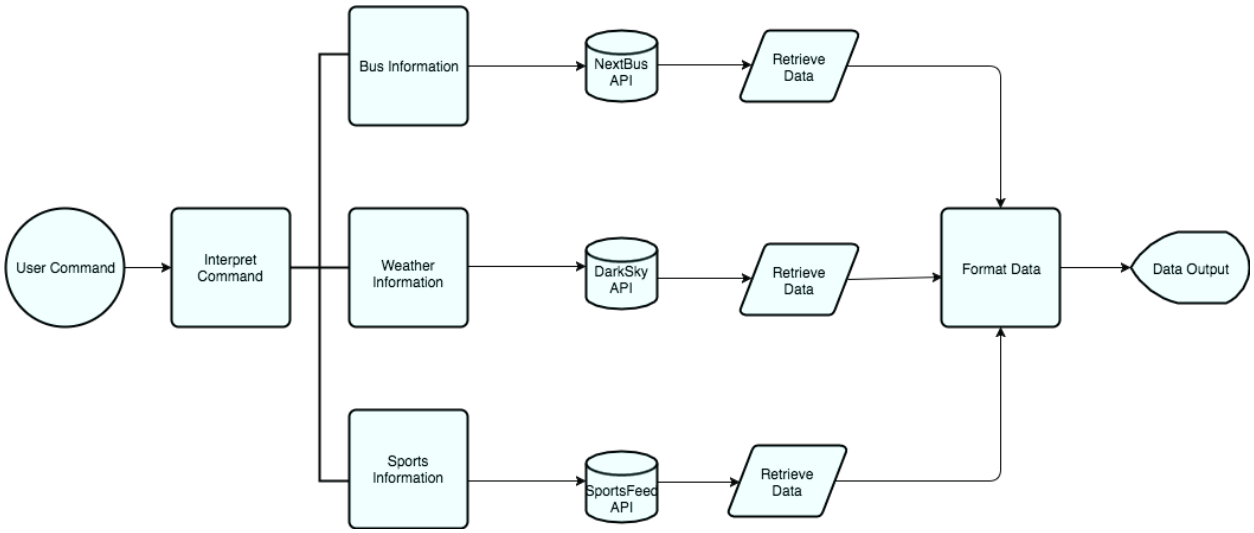
- Bonus Feature, if possible –We want to retrieve sports scores and schedules based on the user asked question. We found an API free for educational purposed that offer scores and schedules for NFL, MLB, NBA, and NHL. We tried NCAA given march madness but the sources weren't concrete and expensive.
    - To obtain this information something simple like "What are the Warriors score?" would pull of information like this:
        - The current record of your team within the current season
        - Some information on the last game played
            - Opponent's name
            - Final Score
        - Next game to be played
        - If game is currently in progress:

- Score
- Time remaining

This addition will be a completely new service aside the weather and bus information. We may attempt the incremental bonus but formatting the weather and bus information to be outputted in layman's terms and be conversational.

SYSTEM DESIGN

Level 0 Diagram:



DATA SOURCE

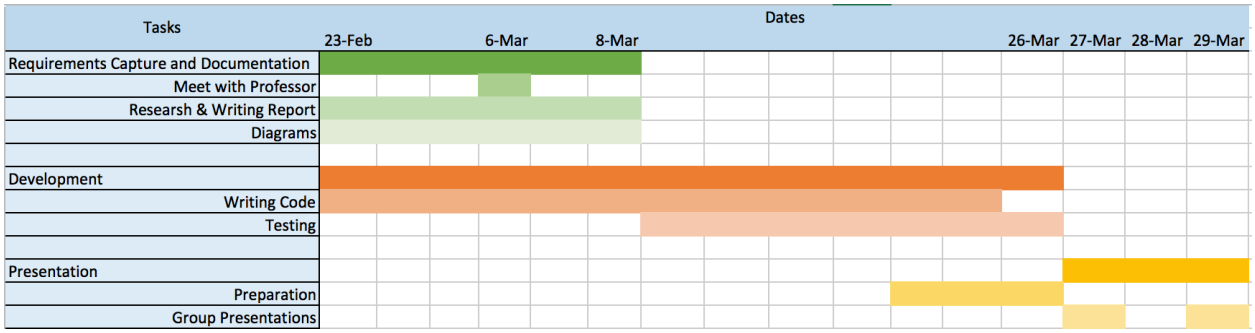
Slack Client: brings all your communication together in one place. It's real-time messaging, archiving and search for modern teams.

Dark Sky API: allows you to request weather forecasts and historical weather data programmatically. It is the easiest, most advanced weather API on the web.

NextBus XML Feed API: provides a Feed of the prediction and configuration information such that developers can create applications for providing passenger information to the public.

MySportsFeeds API: Consistent data for NFL, MLB, NBA, and NHL including Scoreboard, Boxscores, Schedules, Standings, Injuries and. The use of this API is free for educational purposes.

PROJECT PLAN



The Requirements Capture and Documentation consisted of meeting with the professor to clarify project related questions and was completed by Teddy and David. The questions were a team collaboration and all members contributed. The final document was finalized and edited by Matt, David and Pritam. The development task consists of Teddy, Nate and Jesse working together to make the system functionality a reality. The work will be checked and tested by all members of our team. The presentation will be worked on by Matt, David and Pritam and will also get all members prepared and have at least a few lines to say. The Development task will be take the longest and will be challenging.

PROJECT APPROVAL

The following members require approval of this document to begin the next stage in the development.

NAME	ROLE
Jesse Espinoza	Development
Nathaniel Hinshaw	Development
David Jennings	Documentation
Matt Rafalko	Documentation
Teddy Reinert	Development
Pritam Shyam	Documentation

Client Approval: Professor Tim Smith

Signature: Date: