Introduction

- Smart Travel System provides user with a personalized travel experience based on his/her tastes in travelling.
- The system takes user input in the form of text, speech or an interactive questionnaire and suggests travel attractions based on the obtained user preference.
- It behaves as a smart virtual travel agent with detailed itinerary creation functionality.

Data Collection and Processing

- The system currently uses a manually created database consisting of travel attractions in and around Rochester Area. These attractions are labelled according to the type of experience they provide called ‘preference tag’.
- The preference tags used in this system are: Adventure, Sports, Nature, Art and Culture, Family, Kid Friendly and History.
- Each preference tag is related to a database consisting of synonyms and words related to those preference tags.

Algorithms and APIs

- The questionnaire for preference profile mode is created such that there will always be a strong preference detected.
- The text and speech to text input is processed using ‘bag of words’ approach to detect user preference.
- Plural words are handled in the algorithm as well.
- Itinerary is created by the system using number of vacation days and relevant tourist attractions.
- Current location is detected using system IP address.
- Google Distance API is used to calculate distance and driving time between current location and every suggested travel attraction.
- Google Nearby API is used to display restaurants near every suggested travel attraction.

System Flow

- Preference Profile
- Interactive Quiz
- Text Input
- Natural Language Processing to understand preference
- Text Input
- Sent to IBM Watson and Received Text Output
- Speech Input
- Preference Detected
- Database containing tourist attractions
- Output tourist attractions relevant to Preference
- Itinerary Creation Algorithm
- Google Distance API
- Google Geocode API
- Google Nearby API
- Personalized Itinerary with link to attraction webpage, full address, distance and driving time from current location and nearby places to eat

Results

- The final output consists of a detailed personalized itinerary based on user preference.
- This system works as an easy to use multi functional smart travel system.

References

- Google Maps Distance, GeoCode and Nearby API, https://developers.google.com/maps/