

Introduction:

At a hotel, the interactions that occur at the front desk are important for the guest to feel welcomed and comfortable in requesting services. However, with the front desk being in charge of retrieving correct information for the guest, their screen time with the computer takes away from the time they can give attention to the guest. Our project aims to minimize this screen time to maximize guest contact.

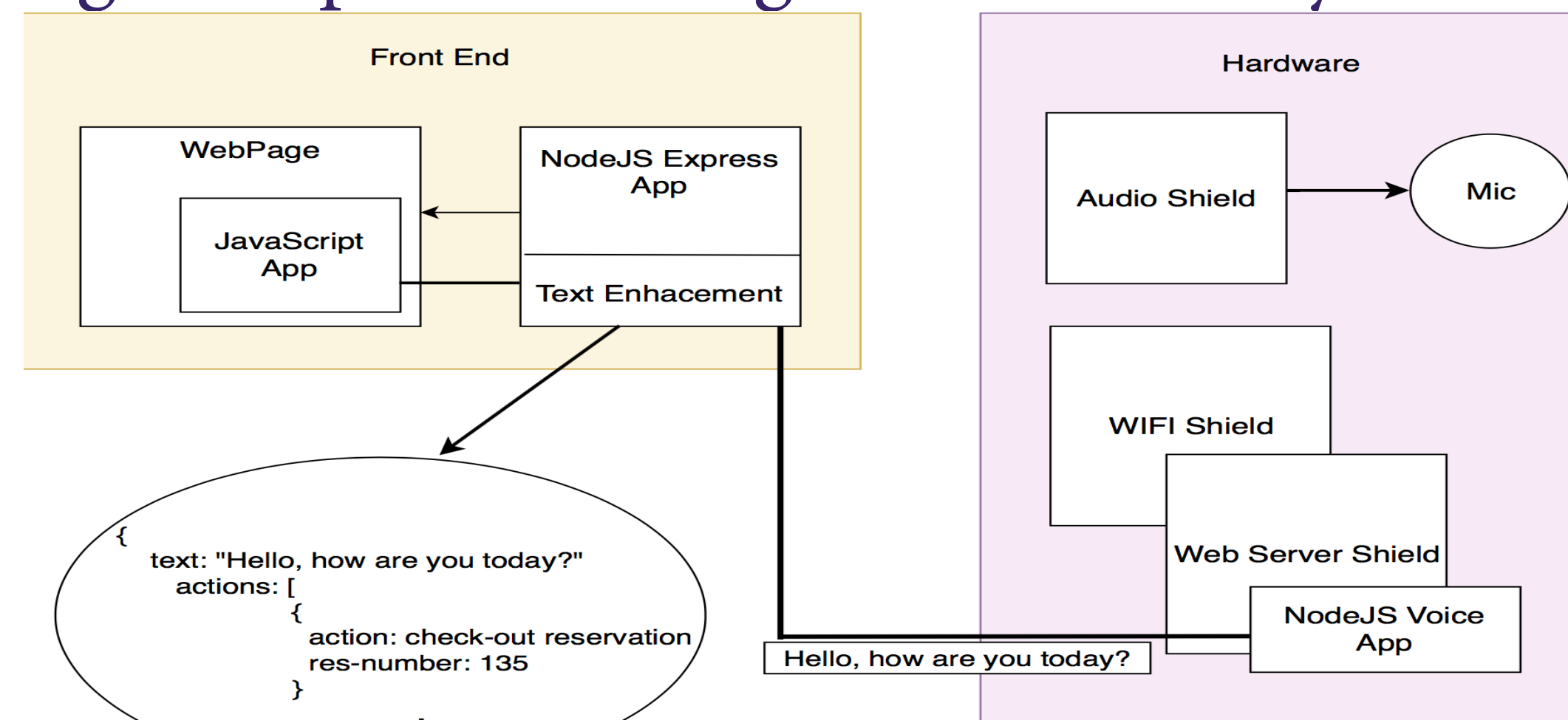
Our Solution:

Develop a software plugin that provides voice-to-text transcription for guest contact with hotel employees in addition to giving the hotel employees pop-up shortcuts to fill out guest requests.

System Requirements:

System needs to be able to:

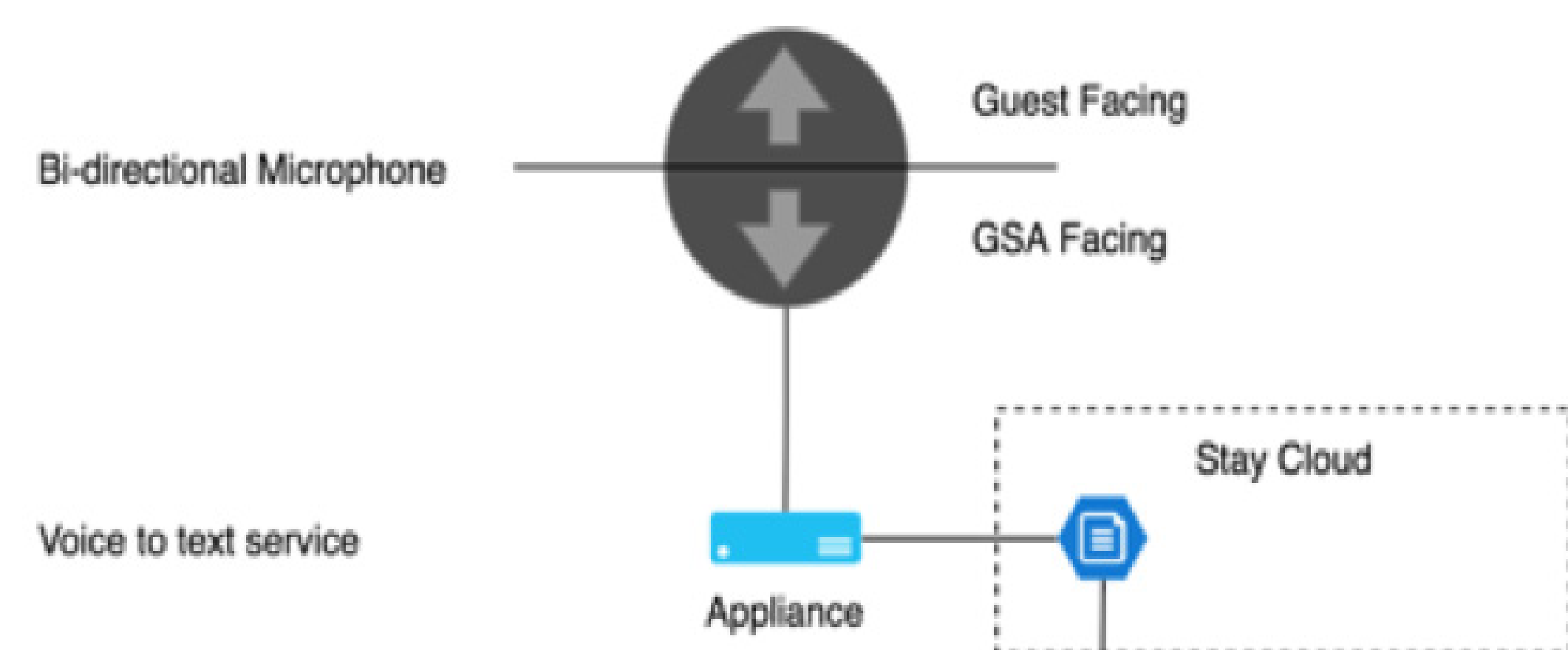
- record conversations
- separate the different people in the conversation
- identify certain words or phrases
- give helpful links to agent automatically



System Specifications:

System will:

- contain two microphones to identify the agent and the guest
- be connected to the Agilysys website to access service requests



Phases:

1. Create a webpage that is able to do voice recognition and display the converted text in real-time
2. Add language option, more languages could be understood
3. Be able to do separate the guests' voice and the GSA's voice and display the content in form of conversations using chat bubbles
4. Generate action links according to the context

Software:

Speech-to-Text

- Google API
 - Detects multiple languages
 - Created interface to display conversations

Natural Language Processing(NLP)

- MS LUIS
 - Trained the software to understand common requests from the guest
 - Successfully understands intents and entities

Hardware:

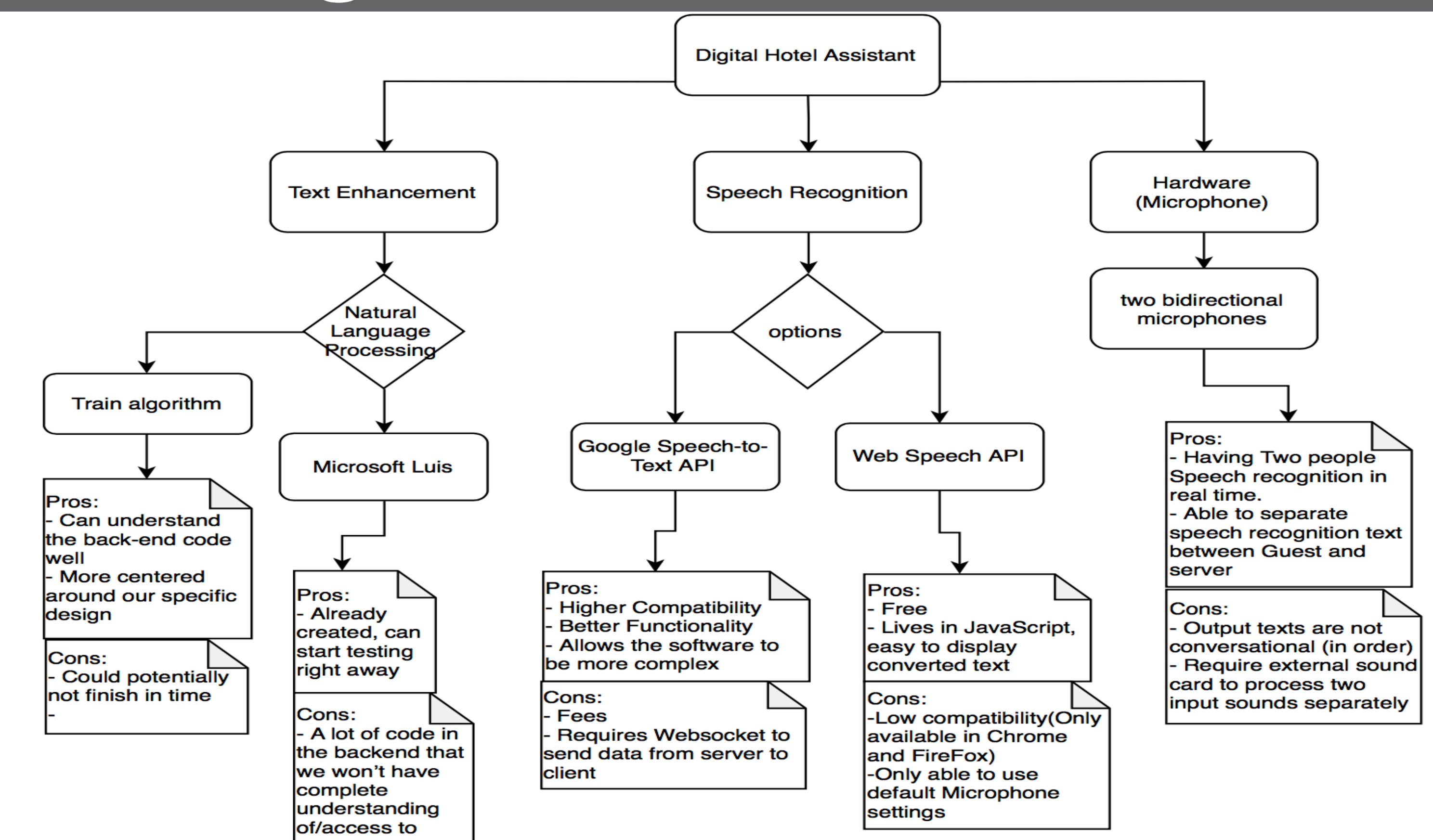
Bidirectional Microphones

- Two separate microphones
- Mixers
- USB External Stereo Sound Adapter
- Gain control

Acknowledgements:

Ryan Gies- Agilysys
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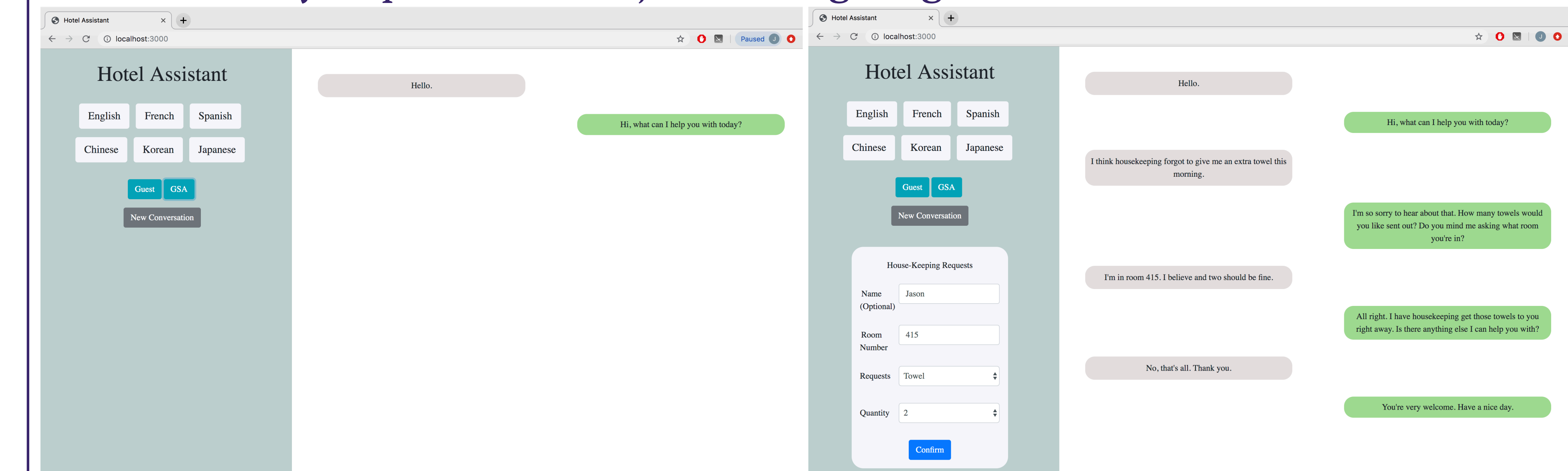
Workflow Diagram:



Results/Future Work:

Results:

- Transcribes Speech-to-Text and displays on our User Interface
- Can identify requests and object through a given text



Future Work:

- Connect to Stay application to fulfill request on Agilysys' software
- Create our own NLP software for text enhancement

References:

<https://cloud.google.com/speech-to-text/docs/streaming-recognize>
<https://docs.microsoft.com/en-us/azure/bot-service/nodejs/bot-builder-nodejs-recognize-intent-luis?view=azure-bot-service-3.0>