**2017 University of Washington**

**Capstone project**

**Avanade.com Search Bot using**

**Microsoft Bot Framework**

**Version: 1.0**

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# Overview

Avanade is affiliate partner of the University of Washington iSchool. We hire interns from the UW iSchool, We have corporate members on the board for the iSchool. We are currently sponsoring a capstone project. Avanade has participated in many other events with the UW iSchool to improve our ability to hire and recruit the best talent possible. We are pleased to submit a capstone project around creating a Bot built on Microsoft technologies that can respond to common questions and queries about the Avanade.com website

## Background & Purpose

Avanade is the leading provider of innovative digital and cloud-enabling services, business solutions and design-led experiences, delivered through the power of people and the Microsoft ecosystem. Avanade was founded in 2000 by Accenture and Microsoft Corporation and has 30,000 professionals in 23 countries. We focus on many solutions for businessby bringing together work environments that combine the elements clients and their employees need, our clients achieve advantage through greater employee satisfaction and performance, enhanced productivity, and accessibility to data that facilitates better decision-making.

<https://avanade.com>

<https://www.avanade.com/en/solutions>

People are on the go and sometimes may not have the ability to browse a website. Running into a meeting with a potential client, specific information is needed fast about the latest Avanade solutions that was just released relevant to this deal. Avanade is partnering with the University of Washington to provide a bot to the Avanade.com website in order to streamline the experience of finding the necessary information to delight customers. This technology can also be used by sales, marketing as well as visitors to our website to drill down on specific questions. The goal is to provide the appropriate content based upon questions posed in **natural language via text or speech!** People find themselves in situations where text or voice may not be appropriate at a given time. The Avanade.com bot gets you exactly what you need fast.

We envision using Microsoft’s bot framework along with a skype bot and hosting it in Azure either via newly available Bot as a Service or Azure Web Application. We also envision a Bot that gets smarter the more it’s used to ensure our Bot can mature along with our content on our site. For this we anticipate that the Language Understanding Intelligent Service, or LUIS to be included in the solution.

## Scope

To produce a working ***text and voice*** based Bot that provide relevant answers about our Avanade.com for all of its content except for the careers section which is managed by a third party provider. For this we just wish you to return the main URL for searching careers.

* For this phase of the project our wish is to focus on the campaign and marketing aspects of our .com website to surface our most relevant data.
* For this phase of the project we will only leverage English as the primary language but we will look to integrate localized versions of the website in future revisions.
* Users should be able to provide feedback regarding the relevancy responses
* Administrators should be able to configure best bets for content they believe to be the most relevant for the users.
* The bot should use the feedback responses to improve results.
* Administrators can scope the bot to certain URLs to control scope of responses.
* It has a customized look and feel that matches Avanade’s branding guidelines

## References

<https://dev.botframework.com/>

<https://azure.microsoft.com/en-us/services/cognitive-services/>

<http://avanadeshowcase.azurewebsites.net/>

<https://azure.microsoft.com/en-us/blog/microsoft-azure-announces-industry-s-first-cloud-bot-as-a-service/>

<https://www.microsoft.com/cognitive-services/en-us/language-understanding-intelligent-service-luis>

<https://blogs.msdn.microsoft.com/tsmatsuz/2016/08/31/microsoft-bot-framework-messages-howto-image-html-card-button-etc/>

https://github.com/microsoft/botframework-webchat

https://docs.botframework.com/en-us/restapi/directline/

# Assumptions, Constraints and requirements

## Assumptions

|  |  |  |  |
| --- | --- | --- | --- |
| Assumption ID | Assumption Detail | Type of Assumption | Impact of Assumption going wrong |
|  | Microsoft Cloud services or development frameworks will be used to develop the solution | Software Platform | Unsupportable by Avanade |
|  | No authenticated content will be part of the solution | Access to content | N/A our .com website is already unrestricted public data. |
|  | Solution can be executed stand alone or integrated into our Site Core solution | Deployment | Difficult to manage and maintain platform post project |
|  | There is an operations guide for the platform so administrative staff knows how to support the solution | Documentation | Difficult to manage and maintain platform post project |
|  | A Visio or PDF based diagram is produced that describes URLs, IP’s, DNS names, and all components of the system | Documentation | Difficult to manage and maintain platform post project. Potential security review. |

## Constraints

|  |  |  |  |
| --- | --- | --- | --- |
| Constraint ID | Constraint Detail | Type of Constraint | Impact of Constraint |
|  | Project must be completed by June 2017 | Time | Scope may be decreased to meet timeline, project cannot exceed deadline as project team will be disbanded. |
|  | Product may not be on the .com website before the deadline due to internal security reviews. Bot should run as a stand-alone URL during the proof of concept phase | Internal processes | Project team may not be able to see a button or other feature on the site at the time of the project release |

## User Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Req. ID | Req. Title | Req. Detail | Req. Priority  High/ med/ low | Req. Status |
|  | English Language | The Bot should accept English questions an give English responses along with source URL | High |  |
|  | Voice Response | The bot should be able to interpret spoken language and give spoken language answers back | High |  |
|  | Response Feedback Collection | Users should be able prompted or persistent designed feedback for responses | High |  |
|  | Auto response curation | The bot should be able to use the relevancy responses and improve its answers. | High |  |
|  | Administrators response curation | Administrators should be able to provide customized responses for common or important questions | Med |  |
|  | Auto response  curation | Training plan for how to train the model | High |  |
|  | Auto response curation | The bot has the ability to determine the country of focus. Especially if it is looking for people. | Med |  |
|  | Voice Response | Skype Bot should be leveraged for voice enabled aspects | High |  |
|  | User Experience | Get me started nudge to prompt with some common questions | High |  |
|  | Response Curation | Accuracy reporting including top 10 best results and bottom 10 worst results | Med |  |
|  | User experience | Should be trained for some common jokes and looking up the weather, other silly questions | Low |  |
|  | User Experience | Best bets for most common questions | Med |  |