Proposal

ResBot

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Submitted in partial fulfillment
Of the requirements of CSC-431
Software Engineering course project

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Preface

This is a proposal for the ResBot project for partial fulfillment of the requirements of a Software Engineering course (CSC431) project in the department of Computer Science at the University of Miami.

This proposal provides the scope and context of the project to be undertaken. It details the intended user group and the value that the system will have to them.

The intended audience of this document is the course professor and teaching assistants so that they can determine whether the project should be approved as proposed, approved with modifications, or not approved.

Table of Contents

1.0   Overview

1.1.   Purpose, Scope, and Objectives

The purpose of this project is to reduce the onboarding period for new Housing and Residential Life (HRL) staff at the University of Miami while providing additional support for everyday tasks. In particular, this software solution seeks to serve **HRL student staff members:** both Resident Assistants (RA's) and Desk Assistants (DA's) as they will be the primary users. Our solution is a chatbot containing desk training information which will be integrated into the HRL Teams [6] channel. Doing so will lower the staffing and utility costs for early move-in and catering for pre-semester training periods.

Making this solution accessible to student staff would also improve desk performance during the semester by eliminating the physical manuals and providing an interactive knowledge base. However, administrators and professional staff would also be able to disseminate training material by modifying the information base of the project.

This project will rely on Microsoft Copilot Studio to help automate information regarding the tasks specified in the physical manuals. As previously mentioned, the ResBot will be integrated into the HRL Teams channel (the preferred mode of communication and filesharing of HRL), further streamlining communication and the flow of information.

1.2.   Project description

We will develop a comprehensive chatbot using Microsoft Power Virtual Agent (now part of Microsoft Copilot Studio), integrating it into the existing Microsoft Teams channel utilized by HRL staff and supervisors. The chatbot will have numerous capabilities outlined in the following sentences. ResBot will display any information from the manual requested by the user.

This will be done using the native visual scripting of Microsoft Copilot Studio [1]. It will retrieve files and forms hosted in the HRL student staff Teams at the user's request. Power Automate [2] and Power FX [3] would make it possible to parse the folders of the HRL Teams and provide search capabilities. ResBot can contact appropriate HRL staff with questions or concerns users may have. This will require workflows that notify the HRL staff through PowerAutomate [2]. It will include tutorials in multimedia format on common procedures. JavaScript Object Notation (JSON) [4] will be used to format the interactive tiles and text bubbles that display this media. PowerFX [3] will also help as we create workflows to link specific content from the HRL YouTube channel to the ResBot. Finally, the addition of a training Masterfile in Microsoft Teams would allow professional staff members to revise or add training material independent of the codebase. A Power Automate workflow can link the text in the Masterfile to the ResBot responses. The solution code and associated documentation will be uploaded to GitHub [5].

References

[1] MicrosoftCopilot: [Microsoft Copilot Studio | Extend Copilots or Create Your Own](#)

[2] Microsoft Power Automate: [Microsoft Power Automate – Process Automation Platform | Microsoft](#)

[3]Microsoft Power FX: [Microsoft Power Fx overview - Power Platform | Microsoft Learn](#)

[4] Java Script Object Notation: [JSON](#)

[5] GitHub: https://github.com/

[6] Microsoft Teams: [Video Conferencing, Meetings, Calling | Microsoft Teams](#)