



CSC 431

ResBot

Software Requirements Specification (SRS)

Team 02

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Version History

Version	Date	Author(s)	Change Comments
1.0	2/23/2024	Justin Prince Kevin Wright Vraj Patel	Submission 1.
2.0	5/1/2024	Justin Prince Kevin Wright Vraj Patel	Final Submission

Table of Contents

1. System Requirements.....	7
1.1 Functional Requirements.....	7
1.1.1 View Handbook.....	7
1.1.2 Play Tutorial Video.....	7
1.1.3 Contact Staff.....	7
1.1.4 Search for File.....	8
1.1.5 Modify Handbook.....	8
1.2 Non-Functional Requirements.....	9
1.2.1 File Update Speed.....	9
1.2.2 Tolerance to Ambiguity.....	9
2. System Constraints.....	10
2.1 Tool Constraints.....	10
2.1.1 Source Control Constraint.....	10
2.1.2 Application Framework.....	10
2.2 Language Constraints.....	10
2.2.1 Backend Framework.....	10
2.3 Platform Constraints.....	10
2.3.1 Web Application Platform.....	10
2.4 Storage Constraints.....	11
2.4.1 Data Usage Storage.....	11
2.6 Network Constraints.....	11
2.6.1 Internet Access.....	11
2.6.2 Access University Directory.....	11
2.6.3 Access Database.....	11
2.7 Deployment Constraints.....	11
2.7.1 HRL Approval.....	11
2.8 Transition & Support Constraints.....	12
2.8.1 End of Support.....	12
2.9 Budget & Schedule Constraints.....	12
2.9.1 Budget Constraint.....	12
2.9.2 Schedule Constraint.....	12
2.9.3 Free Trial Constraint.....	12

2.10 Miscellaneous Constraints.....	13
2.10.1 Proprietary Software.....	13
3. Requirements Modeling.....	14
3.1.1 System Use-Case Diagram.....	14
4. Evolutionary Requirements.....	15
4.1 Functional Requirements.....	15
4.1.1 HRL Staff Forms Integration.....	15
4.2 Non-Functional Requirements.....	15
4.2.1 Conversation Transcript Sharing.....	15

Table of Tables

1. System Requirements.....	7
Table 1: View Handbook.....	7
Table 2: Play Tutorial Video.....	7
Table 3: Contact Staff.....	7
Table 4: Search for File.....	8
Table 5: Modify Handbook.....	8
Table 6: File Update Speed.....	9
Table 7: Tolerance to Ambiguity.....	9
2. System Constraints.....	10
Table 8: Source Control Constraint.....	10
Table 9: Application Framework.....	10
Table 10: Backend Framework.....	10
Table 11: Web Application Platform.....	10
Table 12: Data Usage Storage.....	11
Table 13: Requirement Title.....	11
Table 14: Internet Access.....	11
Table 15: Access University Directory.....	11
Table 16: Access Database.....	11
Table 17: HRL Approval.....	12
Table 18: End of Support.....	12
Table 19: Budget Constraint.....	12
Table 20: Schedule Constraint.....	12
Table 21: Free Trial Constraint.....	13
Table 22: Proprietary Software Constraint.....	13
4. Evolutionary Requirements.....	15
Table 23: HRL Staff Forms Integration.....	15
Table 24: Conversation Transcript Sharing.....	15

Table of Figures

Figure 1: System Use-Case Diagram.....	14
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1. System Requirements

1.1 Functional Requirements

1.1.1 View Handbook

Title	View Handbook
Description	Allows user to access the Housing and Residential Life (HRL) guidelines handbook.
Priority	Mandatory: 0
Precondition(s)	Student HRL Employees must be logged into Microsoft Teams with their University of Miami e-mail. Students also must be within the internal HRL teams channel.
Basic Flow	User opens ResBot. The user enters a question into the bot's chat box. ResBot displays an excerpt of the handbook containing the answer to the question.
Postconditions(s)	User is able to see the handbook excerpt embedded into the chat.
Use Case Diagram	3.1

1.1.2 Play Tutorial Video

Title	Play Tutorial Video
Description	Allows users to find video tutorials explaining their duties.
Priority	Mandatory: 0
Precondition(s)	Student HRL employees must be logged into Microsoft Teams with their University of Miami email. Students also must be within the internal HRL teams channel.
Basic Flow	User opens ResBot. Users enter a question related to their work tasks. ResBot finds appropriate video tutorials from the HRL YouTube channel.
Postconditions(s)	User is able to see the video embedded into the chat.
Use Case Diagram	3.1

1.1.3 Contact Staff

Title	Contact Staff
Description	ResBot suggests HRL Staff to contact (and optionally contacts them automatically) based on the contents of a user's message (keyword recognition).
Priority	Mandatory: 0
Precondition(s)	Student HRL Employee must be logged into Microsoft Teams with their University of Miami email. Student also must be within the internal HRL teams channel.

Basic Flow	User sends a chat to ResBot regarding a question it cannot answer. ResBot suggests a relevant contact to answer the question, and provides their phone number & email to the user. Or ResBot can automatically notify said contact about the user's question through Teams.
Postconditions(s)	User can manually call, email, or message said contact on teams.
Use Case Diagram	3.1

1.1.4 Search for File

Title	Search for File
Description	Allows student HRL employee to ask ResBot to retrieve a relevant file based on keyword recognition.
Priority	High: 1
Precondition(s)	Student HRL Employee must be logged into Microsoft Teams with their University of Miami email. Student also must be within the internal HRL teams channel.
Basic Flow	User requests ResBot to display files based on a query (either a singular file or a range of files based on category). ResBot "replies" within the chat with relevant file(s).
Postconditions(s)	User is able to see the file embedded in the chat.
Use Case Diagram	3.1

1.1.5 Modify Handbook

Title	Modify Handbook
Description	Allows administrative user to make edits to the handbook file for future reference.
Priority	High: 1
Precondition(s)	User must be logged into Microsoft Teams channel with their University of Miami Administrator email (non administrative users will not have access to this feature). Administrator must also be within the internal HRL teams channel.
Basic Flow	User opens ResBot. User asks ResBot to open the handbook file. User selects "Edit." User makes changes to the instructions in the handbook. Saves changes to the document and returns to document viewing mode.
Postconditions(s)	User is able to view the edited handbook.
Use Case Diagram	3.1

1.2 Non-Functional Requirements

1.2.1 File Update Speed

Title	File Update Speed
Description	When an administrator makes updates to the handbook, the document should be updated within 1 minute for all employees to view changes.
Priority	Medium: 3
Applicable FR(s)	1.1.5

1.2.2 Tolerance to Ambiguity

Title	Tolerance to Ambiguity
Description	Users may inquire about procedures in a way that does not exactly match the wording of the handbook. ResBot must be trained to handle a variety of prompts or synonymous trigger phrases to account for this.
Priority	High: 2
Applicable FR(s)	1.1.1

2. System Constraints

2.1 Tool Constraints

2.1.1 Source Control Constraint

Title	Source Control Constraint
Description	Per the project guidelines, we are required to use Github for source control.
Priority	Mandatory:0

2.1.2 Application Framework

Title	Application Framework.
Description	We will be using Microsoft Power Virtual Agent (now part of Microsoft Copilot Studio) to develop the chat bot. Microsoft Copilot Studio allows us to directly integrate ResBot into Microsoft Teams. reference: https://www.microsoft.com/en-us/microsoft-copilot/microsoft-copilot-studio
Priority	Mandatory:0

2.2 Language Constraints

2.2.1 Backend Framework

Title	Backend Framework
Description	As Microsoft Copilot Studio is mainly a front-end tool, managing the actual formatting of the responses, as well as the conditional logic behind the responses will be done in Javascript.
Priority	Mandatory: 0

2.3 Platform Constraints

2.3.1 Web Application Platform

Title	Web Application Platform
Description	ResBot can be used on the Microsoft Teams mobile application or desktop application.

Priority	Mandatory: 0
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2.4 Storage Constraints

2.4.1 Data Usage Storage

Title	Data Usage Storage
Description	Stores data related to all interactions including the time, location (residential college), and employee accounts involved
Priority	High: 2

2.6 Network Constraints

2.6.1 Internet Access

Title	Internet Access
Description	Users will need internet access for Microsoft Teams to work, which means internet access is necessary to use ResBot.
Priority	Mandatory: 0

2.6.2 Access University Directory

Title	Access University Directory
Description	ResBot must be able to access the University of Miami personnel and student contact information in order to refer users to one another.
Priority	Mandatory: 0

2.6.3 Access Database

Title	Access Database
Description	ResBot must be able to access an external database that stores chat logs with related metadata.
Priority	Mandatory: 0

2.7 Deployment Constraints

2.7.1 HRL Approval

Title	HRL Approval
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Description	ResBot functioning correctly relies on the Housing & Residential Life department providing access to confidential files such as employee handbooks. HRL must also provide access to their Teams channel in order to integrate ResBot into it.
Priority	Mandatory: 0

2.8 Transition & Support Constraints

2.8.1 End of Support

Title	End of Support
Description	Development of the ResBot will stop at the end of the Spring semester. Thus, there will be no updates after the final day of the semester.
Priority	Mandatory: 0

2.9 Budget & Schedule Constraints

2.9.1 Budget Constraint

Title	Budget Constraint
Description	Since there is no seed funding for this project, any tools used must be free
Priority	Lowest: 5

2.9.2 Schedule Constraint

Title	Semester End Constraint
Description	As this project is part of the Spring 2024 Section of CSC 431, It must be completed by the Semesters End (April 29th, 2024)
Priority	Very High: 1

2.9.3 Free Trial Constraint

Title	Free Trial Constraint
Description	Microsoft Copilot Studio only provides a free trial of 60 days. Initial development of ResBot and first build must be completed within this time period. Additional development will require the purchase of a subscription.
Priority	High: 2

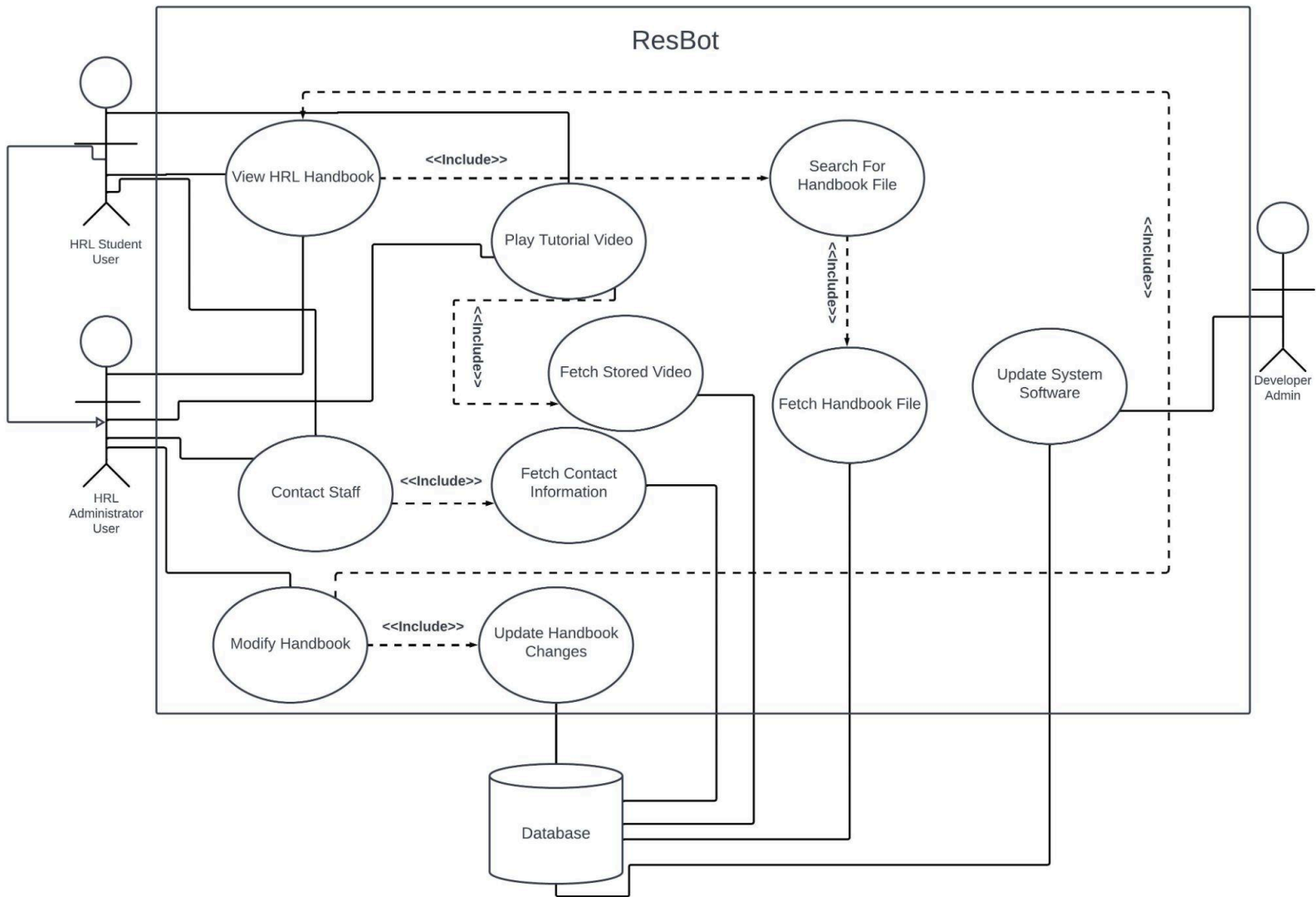
2.10 Miscellaneous Constraints

2.10.1 Proprietary Software

Title	Proprietary Software
Description	<p>ResBot is built and supported by the Microsoft Copilot Studio platform. If the University administrator account lost the Copilot Studio or Power Automate ResBot would no longer be functional and would have to be decommissioned if the license is not renewed.</p> <p>Also, significant updates to the Copilot Studio by Microsoft could change ResBot's functionality in unknown ways despite this being unlikely.</p>
Priority	Very High: 1

3.Requirements Modeling

3.1.1 System Use-Case Diagram



4. Evolutionary Requirements

4.1 Functional Requirements

4.1.1 HRL Staff Forms Integration

Title	HRL Staff Forms Integration
Description	Upon the user's request, ResBot will be able to complete appropriate forms from the HRL Staff Links site based on a conversation transcript.
Priority	Medium: 3
Precondition(s)	Power Automate must be granted access to the HRL website API. Users must be logged in to Microsoft Teams with their UM credentials to avoid unrestricted access.
Basic Flow	User sends a message to ResBot asking to fill out a form from the HRL Staff Links website. ResBot pulls the questions from the form and asks them to the user within the chat. User replies to ResBot with the appropriate answers. ResBot will parse user's responses and fill out the associated form with them automatically. User will receive confirmation email from Qualtrics that the form was filled out and submitted.
Postconditions(s)	User is able to view or download the form sent from Qualtrics.
Use Case Diagram	N/A

4.2 Non-Functional Requirements

4.2.1 Conversation Transcript Sharing

Title	Conversation Transcript Sharing
Description	When ResBot contacts a staff member via Teams due to a user's query, the message on Teams may have the transcript of the preceding conversation to provide context.
Priority	Medium: 3
Applicable FR(s)	1.1.3