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Executive Summary

Have you ever walked by a bin with something to throw away and wondered **“Hmm... is this recyclable?”** Maybe you thought about it a little, thought **“Ehh... I have enough things to worry about”** and threw it in the trash?

Maybe that’s just us. Well, it is in these times and happenings that we found inspiration for our brain child, Binny the Bot. Binny was designed to utilize capabilities of the Genesys speech system to allow for an interactive recycling experience with our user that is easy and enjoyable.

By giving a great sense of **humor** and **personality** to Binny, we hoped to create a fun recycling experience that will not have our users dreading recycling but rather, looking forward to their next talk with their **“disposal buddy”**. The implementation for this project was hosted on Genesys and the logic of the pages as well as the documentation of all possible interaction with Binny the Bot is included in this document. We were also able to conduct user testing with two iterations of Binny with MIT undergraduates, detailed analyses of which are also included in this document. From these results, we believe Binny the Bot has the potential to add real value to the lives of students.



Background Information

While recycling rates in United states have been rising since 1960, there is still much room for improvement. In 2013, Americans generated a total of **254 million** tons of trash, and only recycled or composted 87 million tons of this material. This corresponds to a recycling rate of **34.3%**, which is much lower than many other similarly developed nations. **The United States is not caught up to the rest of the developed world in recycling, and this needs to change.**

Many people choose not to recycle because they don't know what is recyclable. If someone isn't sure whether a particular type of plastic is recyclable, many times they'll play it safe and **throw it in the trash**. One survey even revealed that for **8%** of the respondents, one of the major reasons is that they're **unsure** of which items they're allowed to recycle.

The lack of recycling education also poses negative effects on current recyclers, as many people who do recycle end up recycling the wrong things. Many recycling sorting facilities are facing trouble with high rates of non-recyclable **contamination**. This decreases the efficiency of sorting facilities, which causes pressure on already financially strained recycling companies. **The need for a different approach is clear.**



Design Considerations

Binny's mission is to impart its own sense of **excitement, joy, and passion** about recycling to everyone it interacts with. Today, recycling is often a sterile, transactional process - we're told what to do and why we're supposed to do it.

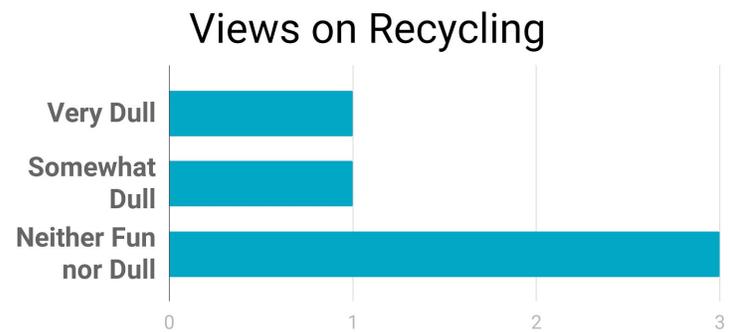
At MIT, and for young adults everywhere, recycling correctly is a confusing and annoying process. Our goal is to reinvent how people feel about recycling - by giving recycling a completely new, personal touch.

Meet Binny the Bot.

Binny takes a different approach - speaking with an **easy-going, conversational tone** to users.

After a few minutes with Binny, we want users left feeling enlightened and with a positive attitude about recycling. We worked to make Binny as **friendly and informative** as possible, by organically integrating recycling facts and jokes. We carefully designed it to be accurate by researching local standards. Additional features, such as a joke option, were added to give users a fun experience.

Who are Binny's users? Binny is meant primarily for college-aged students and younger - but really anyone who still holds onto a spark of playfulness, wonder, and a urge to protect the world we live in. Binny's design makes him appealing to a wide range of ages, from **young kids** learning about recycling, to **college students** learning to see recycling in a whole new light.



Q: Why makes Binny unique?

Binny's design is unique because it asks the user specific questions to narrow down on the material and the directions on how to recycle.

Q: What does Binny do?

Binny also helps to teach users how to recycle on their own. The informative components of the interactions make Binny a tool to help people learn how to properly recycle and hopefully help solve the recycling problem. Overall, Binny's design aims to meet these simple goals and give users a positive and informative interaction.



Usability Test 1

To get an idea of how well Binny the Bot could help our intended audience, we conducted a number of tests with MIT undergraduate students, a good representative sample space for our end user. We assessed two main proposed uses of Binny the Bot, facilitating recycling and creating an enjoyable experience through jokes, fun facts and a general quirky attitude.

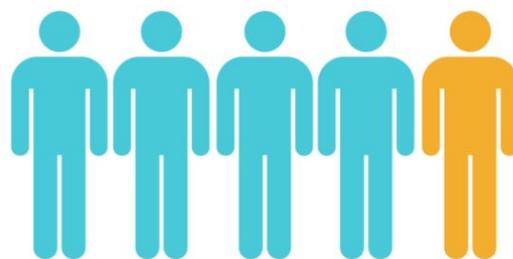
Before testing with Binny the Bot, we found that

4 out of 5 of our test users believed they don't recycle enough . This creates

great potential

for Binny to help facilitate more recycling. However on this front , we found there were some recurrent issues that affected the quality of the user experience.

4 out of 5 users felt they recycled too little



For one, a number of usability tests seemed to indicate that the the length of the text-to-speech prompts as well as the speed at which the system read them was too quick for the user to fully comprehend the entirety of the prompt in one or two readings. In addition, we noticed that the system structure was misleading in some ways, as the first layer of responses were keywords while the second layer accepted only Yes/No responses to similar questions. The last notable issue noticed with general system functionality was the fact that for



recycling plastic bottles, the system asked an unnecessary question and later mislabeled something that should be recycled as trash.

The fixes for the issues that were mentioned above would in theory be not severe in terms of implementation. For the issues with text-to-speech reader, the next step would be to insert actual voice recordings from one of our team members into the system as this would then mean we could control and optimize the intonation and speed. To fix the other two issues, we would have to alter the system outputs to increase accuracy as well as to clarify the nature of the input expected. However, we predict that both these fixes would be moderately easy to implement and would thus be fixed for our next iteration. An example of our current and improved interaction is included below.

Who	Observable Action	
Speech System	"Hello! My name is Binny the Bot. I'm here to help you save the Earth today. If you'd like to recycle something, say 'recycle'; if you would like to hear a joke, say 'joke'; if you would like to hear a fun fact about recycling, say 'fact'; otherwise, say 'end' to end the call."	
User	"Recycle"	
Speech System	"Is the thing you want to recycle today paper, cardboard, metal, plastic, glass or something else?"	
User	"Cardboard"	
	Old	Improved
Speech System	"Great! Is it one of the following? Waxed, waterproof or soiled cardboard?"	"Great! Is it one of the following? Waxed, waterproof or soiled cardboard? Please answer Yes or No"
User	"Waxed"	"Uhh... no"



Speech System	"I am sorry, I didn't get that. Great! Is it one of the following? Waxed, waterproof or soiled cardboard?"	"Your item is recyclable! Thanks for doing your part to save the world! If you'd like to continue saving the Earth, I'm still here to help! Say 'recycle', 'joke' or 'fact' to continue, or say 'end' to end the call."
User	"Waxed"	"End"
Speech System	"I am sorry, I didn't get that. Let's go back to the beginning"	"Thank you for being so Earth-Conscious! Have a great day" ***ENDS CALL***

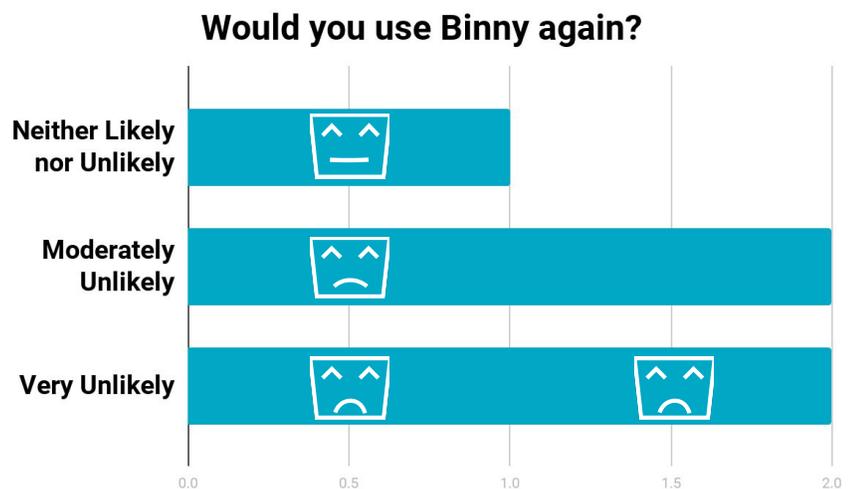
Table 1 : V1.0 Proposed Improvements to Binny the Bot

As part of creating a fun, informative and enjoyable experience with Binny, the complicated structure created more fixes to make.

First, the same issues with the text-to-speech reader persisted, i.e. issues with speed and intonation.

Second, because of the inconsistent way the system pronounced certain outputs, it created the impression that Binny the Bot was not consistently nice or upbeat.

Third, when receiving numerical feedback, Binny the Bot spoke too quickly in the prompt, which meant that the user often had to go to the no-match condition of the system to realize a numerical input was required.



All these made Binny all the more difficult to use, leaving **2 in 5** users saying they were **very unlikely** to use it again.

For all of the issues mentioned thus far that deal with the general 'persona' of Binny the Bot, the next logical fix would be to use our voice recordings to create a more organic experience. However the least appreciated feature during the user testing phase was the audio feedback for jokes and fun facts. Originally this section was intended for us to get a better sense of how the users responded, and thus make Binny funnier. However we found that the answering machine functionality, especially how to end the recording, was confusing to users. Here we script how we propose to improve this particular interaction, by removing this functionality.

Who	Observable Action		
Speech System	"Hello! My name is Binny the Bot. I'm here to help you save the Earth today. If you'd like to recycle something, say 'recycle'; if you would like to hear a joke, say 'joke'; if you would like to hear a fun fact about recycling, say 'fact'; otherwise, say 'end' to end the call."		
User	"Joke"		
Speech System	"Alright, here goes nothing! How do prius owners drive? A: One hand on the wheel, one hand patting themselves on the back"		
Speech System	"How was the joke? Can you give me a rating on a scale on 1 to 5 so I can improve in the future?"		
User	"Uhh..."		
Speech System	"Sorry, I didn't understand that. Can you give me your rating as a number between 1 and 5."		
User	"3"		



	Old	Improved
Speech System	“Great, thanks! Do you have any other comments for me?” -- Begins Recording --	“Thank you for the feedback! If you’d like to continue saving the Earth, I’m still here to help! Say ‘recycle’, ‘joke’ or ‘fact’ to continue, or say ‘end’ to end the call.”
User	“That joke was okay... Ummm, how do I stop this recording?...”	“End”
Speech System	“Thank you for the feedback!”	“Thank you for being so Earth-Conscious! Have a great day”
Speech System	“If you'd like to continue saving the Earth, I'm still here to help! Say 'recycle', 'joke' or 'fact' to continue, or say 'end' to end the call.”	
User	“End”	
Speech System	“Thank you for being so Earth-Conscious! Have a great day”	

Table 2 : V1.0 Proposed Improvements to Binny the Bot

The usability tests also helped understand the value of Binny to the users as well as potential venues for value creation. For example, as seen in Figure 1 below, **100% of users** found Binny to be either somewhat or very friendly. In addition, **3 out of 5** of users felt their interactions with Binny were informative. Added below is also a table of all issues that arose during usability testing and improvements made to Binny the Bot to help mediate them.



Issue #	Description	UI Severity (1-5)	Tech Complexity (1-5)	Resolution
1	System talks too fast for the user to fully comprehend	3	2	Adjust speed of speech for the voice system as well as introduce appropriate punctuation and spaces as needed.
2	System asks similar kinds of questions in different stages but expects different types of responses (Yes/No versus Word Response)	4	2	Alter the logic flow of the system and make sure different stages of the system follow similar kinds of logic in terms of what is expected from the user
3	System Outputs are very long	3	3	Edit script and adjust human narration for clarity.
4	Joke answer is in strange format, and not enough of a pause after the question. [joke] "A: answer"	3	2	Adjust phrasing of the joke
5	Reinput prompt for plastic doesn't make sense when looping back around.	4	1	Add separate prompt when being prompted for re-input.
6	When system encounters error,	4	2	Rearrange error transitions in each



	returns to start of entire call flow, instead of the portion.			section to go back to start of section instead of entire flow.
7	Binny does not consistently understand commands like 'recycle', 'joke'	4	3	Look into Angel features that allow for more robust recognition.
8	Short-circuiting prompt narration doesn't work well.	4	2	Look into Angel features that enable short-circuit answers.

Table 3: Common issues encountered during Usability Test 2 of Binny the Bot: UI Indicates User Interface and 'System' here refers to the user facing interface of Binny the Bot.



Usability Test 2

Here we will synthesize the user testing experience with the second iteration of Binny the Bot, summarizing the good, bad and the ugly of our new prototype. In the testing process a number of issues were identified with this prototype, varying in both UI severity and Tech Complexity.

The least complex issue that affected **3 in 4** users was how or how not the logic of the system was made known to the user. Upon interaction with Binny the Bot, the first question that is asked about recycling basically requires the user to categorize their recyclable after giving them a list of options to choose from. However the question itself and that next to it was misunderstood by the users as expecting a Yes/No response. Here a relatively easy fix would be to articulate what exactly the system expects in clearer terms by adding more specific no input and no match conditions.

However when fixing this, we also have to keep another potential issue in mind. In our pre-test survey, we found that **100%** of our users valued being **quickness** and **3 in 4** also valued **clarity of instructions**, easily making those two the most important parameters our test subjects. However in the past, when focusing on clarity, the length of the system output was observed to be longer than desired and caused a negative user experience. This next set of improvements will then focus on this issue to find a practical balance.



Other issues that are potentially a lot higher in tech complexity were those dealing with the **site-wide no match case**. Because the site automatically defaults to starting from the very beginning after a certain number of no match or no input cases (usually 3), this happening even once in a call caused a significant increase in the length of time to recycle an item, something we always want to keep short.

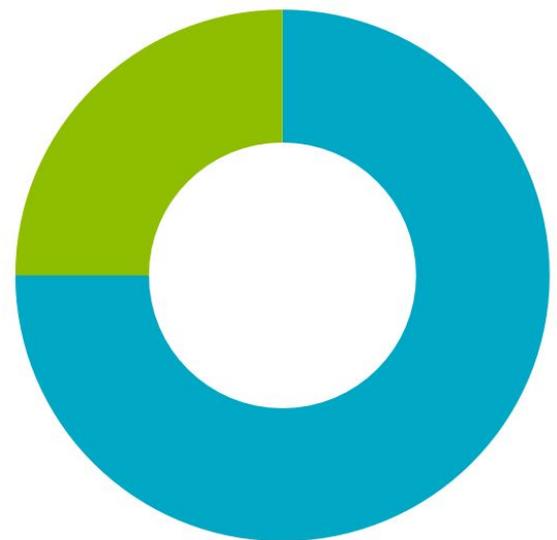
Though we have yet to look into a potential solutions that are more intensive, a fix that is possible to test out is to have more no match and no input cases before this stage is reached, theoretically giving more opportunities for the user to avoid it. Another more intensive fix might to be set the site wide settings to default to the last accessed page instead of the beginning page when no match and no input conditions are exhausted.

An issue that is perhaps not technically oriented but still relevant is the **quality of the jokes and facts**. Initially we had added a feedback system to track which jokes and facts our users liked best so we could add more like those, but after the two rounds of testing, hammering down a 'good' sense of humor for Binny was still not as successful as we would like.

A tech solution could be to record the jokes and facts in human voices with the correct enunciation but this would be time consuming and a technically challenging fix for potential minimal gain. On that issue then the solution we propose would be a more intense curation process for the jokes and facts informed by the data we have for which jokes people like and don't like.

Jokes?

● Enjoyed it ● Disliked it



An example of an improved interaction, as well as a table of the most common issues is included below.

Who	Observable Action	
Speech System	"Hello! My name is Binny the Bot. I'm here to help you save the Earth today. If you'd like to recycle something, say 'recycle'; if you would like to hear a joke, say 'joke'; if you would like to hear a fun fact about recycling, say 'fact'; otherwise, say 'end' to end the call."	
User	"Recycle"	
Speech System	"Is the thing you want to recycle today paper, cardboard, metal, plastic, glass or something else?"	
User	"Cardboard"	
Speech System	"Great! Is it one of the following? Waxed, waterproof or soiled cardboard?"	
User	"ummm"	
Speech System	Old	Improved
	"I am sorry, I didn't get that. Great! Is it one of the following? Waxed, waterproof or soiled cardboard?"	"I am sorry, I didn't get that. Great! Please choose one of the following: Waxed, waterproof or soiled cardboard?"
User	"....."	"...."
Speech System	"I am sorry, I didn't get that. Great! Is it one of the following? Waxed, waterproof or soiled cardboard?"	"I am sorry, I didn't get that. Great! Please choose one of the following: Waxed, waterproof or soiled cardboard?"
User	"....."	"...."



Speech System	"I am sorry, I didn't get that. Let's go back to the beginning"	"I am sorry, I didn't get that. Great! Please choose one of the following: Waxed, waterproof or soiled cardboard?"	
Speech System	"Hello! My name is Binny the Bot. I'm here to help you save the Earth today. If you'd like to recycle something, say 'recycle'; if you would like to hear a joke, say 'joke'; if you would like to hear a fun fact about recycling, say 'fact'; otherwise, say 'end' to end the call."	User	"Waterproof"
		Speech System	"Binny thinks that item is trash, but you're not trash!"

Table 4: Sample V1.0 vs V2.0 K-script



Issue #	Description	UI Severity (1-5)	Tech Complexity (1-5)	Resolution
1	System talks too fast for the user to fully comprehend	3	2	Adjust speed of speech for the voice system as well as introduce appropriate punctuation and spaces as needed.
2	System asks similar kinds of questions in different stages but expects different types of responses (Yes/No versus Word Response)	4	2	Alter the logic flow of the system and make sure different stages of the system follow similar kinds of logic in terms of what is expected from the user
3	System is not consistently upbeat or 'nice'	2	1	Add more exclamation points to the system script
4	System Outputs are very long	3	3	Edit script and adjust human narration for clarity.
5	When recording a comment, it is unclear how long to speak for/how to end the comment	3	4	Investigate use of code words in Angel to stop recording
7	Joke answer is in strange format, and not enough of a pause after the question. [joke] "A: answer"	3	2	Adjust phrasing of the joke
8	"How was the joke?" does not specify number input up front, and user says textual answer instead,	4	1	Change phrasing to "How was the joke on a scale from 1-5?"



	prompting re-input			
9	Reinput prompt for plastic doesn't make sense when looping back around.	4	1	Add separate prompt when being prompted for reinput.
10	Wax paper choice is not understood	4	2	Investigate collision between having a "wax paper" and "paper" choice.
11	When system encounters error, returns to start of entire call flow, instead of the portion.	4	2	Rearrange error transitions in each section to go back to start of section instead of entire flow.
12	Binny does not consistently understand commands like 'recycle', 'joke'	4	3	Look into Angel features that allow for more robust recognition.
13	Short-circuiting prompt narration doesn't work well.	4	2	Look into Angel features that enable short-circuit answers.

Table 5: Issues encountered with testing V2.0 broken down by User Interface(UI) Severity and Technical Complexity



Progress across Tests

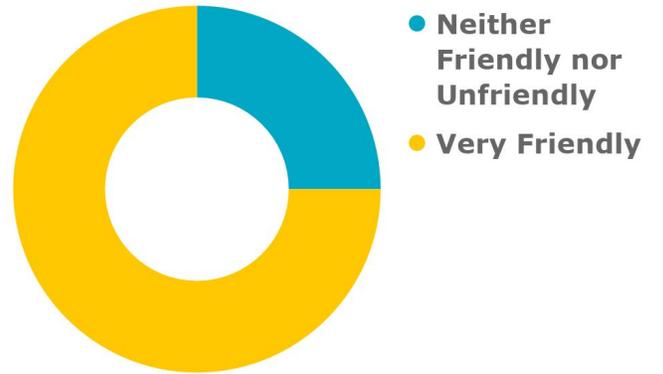
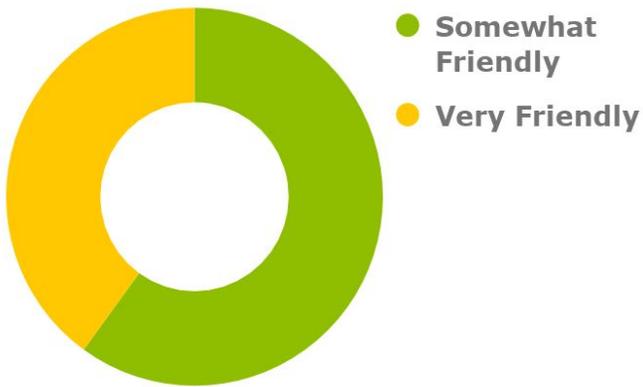


Round 1

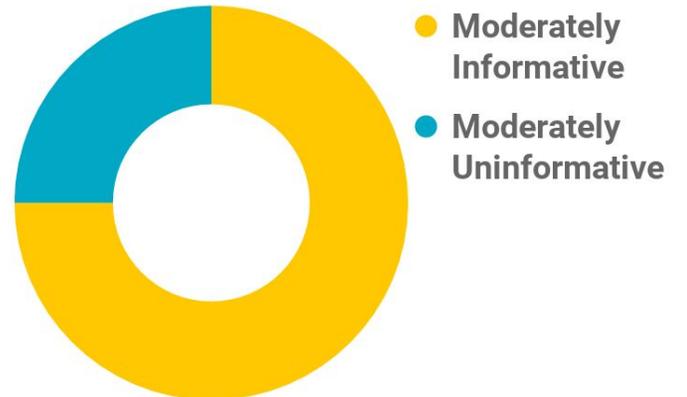
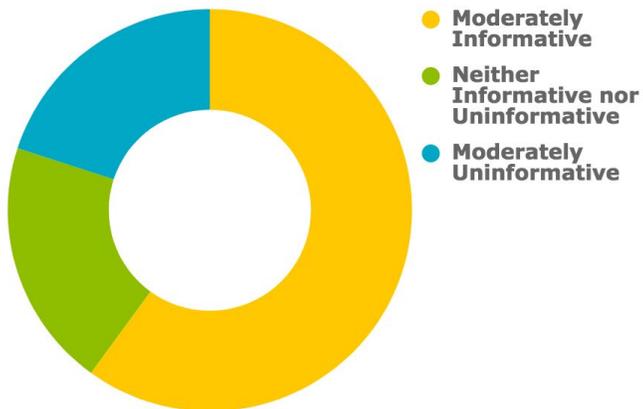
vs

Round 2

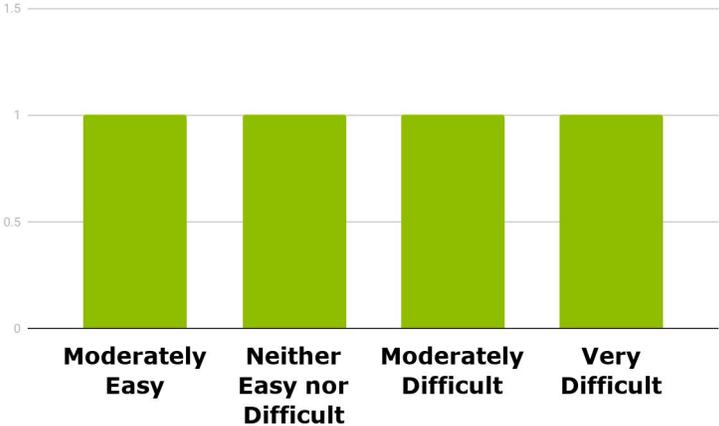
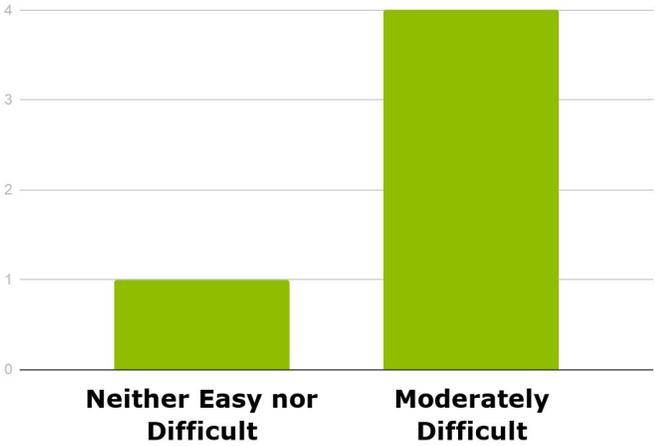
Friendliness



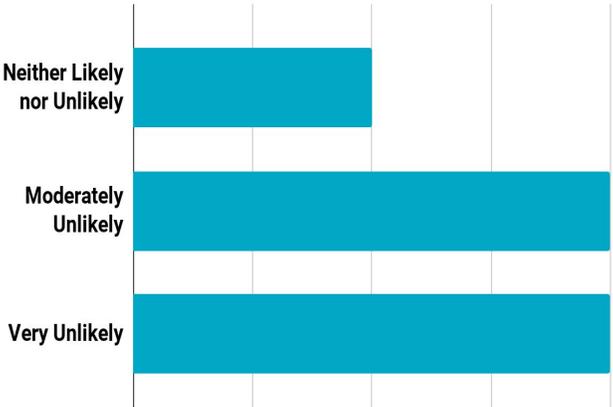
Informativeness



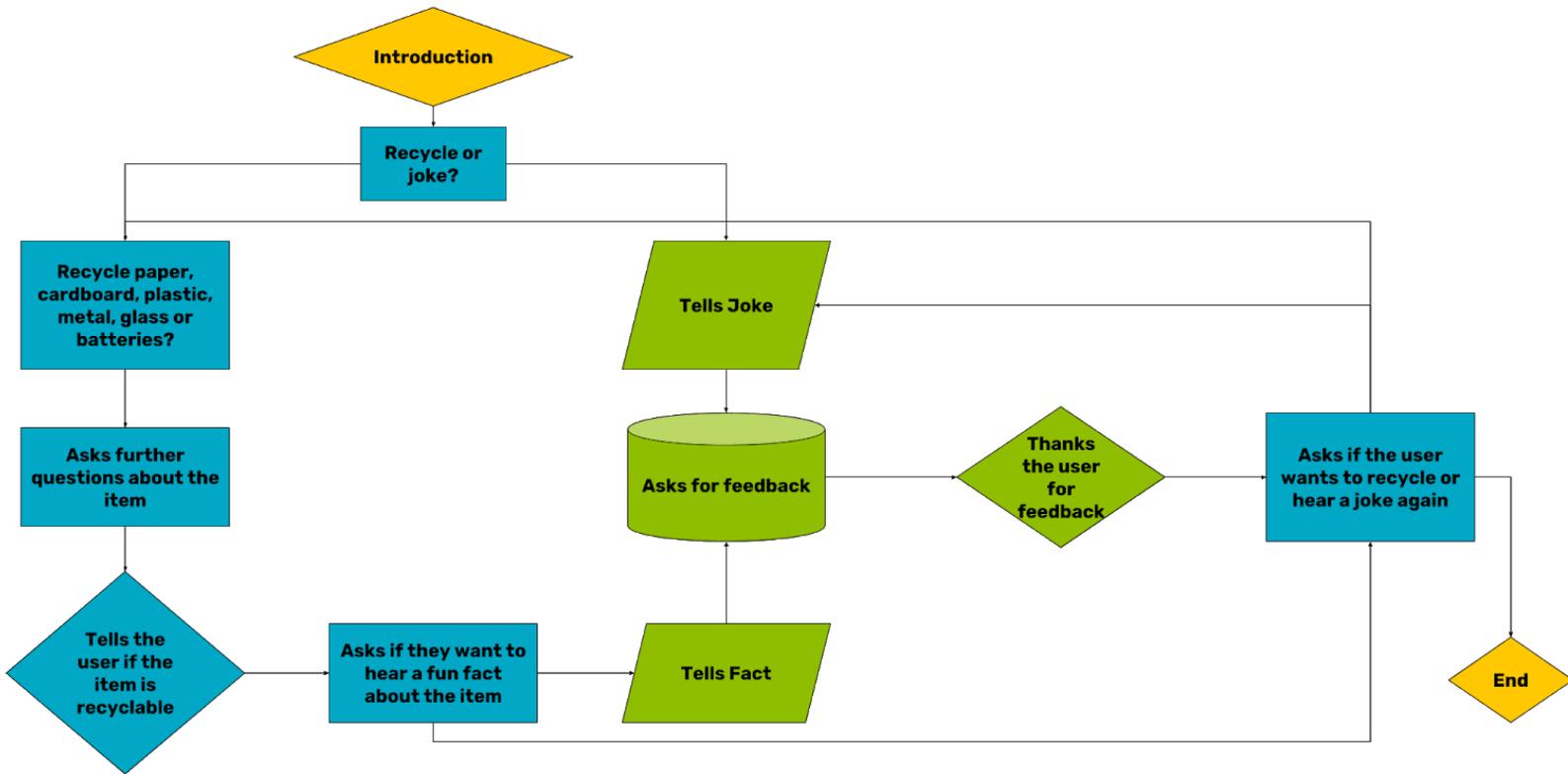
Ease of Use



Would you use it again?



Call Flow Diagram



State Table

000	Says: "Hello! My name is Binny the Bot. I'm here to help you save the Earth today." (Transition to 010)
010	Asks: "If you'd like to recycle something, say 'recycle'; if you would like to hear a joke, say 'joke'; otherwise, say 'end' to end the call." If hears: "recycle", (Transition to 100) If hears: "joke", (Transition to 300) If hears: "end", (Transition to 500)
100	Asks: "Is the thing you want to recycle today paper, cardboard, metal, plastic, glass or batteries?" If hears: "paper", (Transition to 110) If hears: "cardboard", (Transition to 120) If hears: "metal", (Transition to 130) If hears: "plastic", (Transition to 140) If hears: "glass", (Transition to 150) If hears: "batteries", (Transition to 160)
110	Asks: "Great! Which one of the following is it? Napkins, tissue paper, paper towels, wax paper, wrapping paper or something else?" If hears: "napkins", "tissue paper", or "paper towels", (Transition to 111) If hears: "wax paper", (Transition to 112) If hears: "wrapping paper", (Transition to 113) If hears: "something else", (Transition to 114)
111	Says: "Napkins, tissue paper and paper towels can only be recycled if they haven't been used to clean anything. They should be dry and clean before recycling. If they are not, feel free to throw it away in the trash." (Transition to 170)
112	Says: "When paper is recycled, part of the process is mixing it with water. Since wax contains oil, it would not go well with water. Feel free to throw your paper in the trash!" (Transition to 170)
113	Says: "You can only recycle simple wrapping paper. Foil paper or paper decorated with glitter should go in the trash! Also, be sure to remove any tape or any other adhesive attached to it." (Transition to 170)



114	Says: "Binny the Bot thinks that your paper is recyclable! Make sure that it is not wet before recycling. Also, shredded paper is a real headache for recycling centers. If you want to remove confidential information, use a marker to redact information. Oh, and don't worry about paper clips and staples: most recycling centers have equipment that takes those off automatically! Pretty cool, huh?" (Transition to 170)
120	Asks: "Great! Which one of the following is it? Waxed, waterproof, corrugated cardboard or something else?" If hears: "waxed" or "waterproof" (Transition to 121) If hears: "corrugated" (Transition to 122) If hears: "something else" (Transition to 123)
121	Says: "When cardboard is recycled, part of the process involves adding water. Because of this, waxed or waterproof cardboard cannot be recycled. Feel free to throw it in the trash!" (Transition to 170)
122	Says: "Corrugated cardboard usually cannot be recycled, although it varies from center to center. I encourage you to reach out to the local recycling center to find out!" (Transition to 170)
123	Says: "So long as your cardboard isn't wet or covered with grease, you can recycle it! Just don't go around trying to recycle pizza boxes." (Transition to 170)
130	Asks: "Great! Was it ever contaminated with paint, gas or oil?" If hears: "yes", (Transition to 131) If hears: "no", (Transition to 132)
131	Says: "Binny the Bot thinks it's trash. But you're not trash." (Transition to 170)
132	Says: "So long as it does not contain lead or mercury, your item can be recycled!" (Transition to 170)
140	Asks: "Great! Do you notice any numbers on it for recycling?" If hears: "yes", (Transition to 141) If hears: "no", (Transition to 145)
141	Asks: "Awesome! We're almost there. What number appears in the middle of the triangle?"



	<p>If hears: "one" or "two" (Transition to 142) If hears: "three", "six" or "seven" (Transition to 143) If hears: "four" or "five" (Transition to 144)</p>
142	<p>Says: "Plastics of type 1 and 2 are usually used for bottles of all kinds. They are always recyclable! Just make sure to rinse them if they contained something other than water." (Transition to 170)</p>
143	<p>Says: "Plastics of types three, six and seven are used to make pipes, Styrofoam containers and reusable bottles. These plastics are rarely, if ever, recyclable. If you need to dispose of these, throw them away in the trash. However, I would really appreciate it if you could find a way to reuse them! Plastic stays around for hundreds of years before decomposing." (Transition to 170)</p>
144	<p>Says: "Plastics of types 4 and 5 are used for plastic bags and other containers. Whether or not these are recyclable depends on your nearby center. You should call them to find out!" (Transition to 170)</p>
145	<p>Says: "Binny the Bot thinks it's trash. If you need to dispose of it, feel free to throw it in the trash. However, I would really appreciate it if you could find a way to reuse it! Plastic sticks around for hundreds of years before finally decomposing." (Transition to 170)</p>
150	<p>Asks: "Great! Which one of the following is it? Light bulbs, mirror glass, window glass, ceramics, marble, crystal, or something else?" If hears: "light bulbs", "mirror glass", "window glass", "ceramics", "marble" or "crystal", (Transition to 151) If hears: "something else", (Transition to 152)</p>
151	<p>Says: "Usually these kinds of glass have additives that weaken the glass after it is recycled. Recycling this type of glass can cost the glass maker hundreds of dollars! So please dispose of this, or find a way to reuse it in your home." (Transition to 170)</p>
152	<p>Says: "Ordinary glass is usually recyclable. However, oftentimes the market for glass recycling is scarce. Be sure to contact your local recycling center to find out if there is a glass recycling program." (Transition to 170)</p>



160	<p>Asks: "Perfect! Is it a car battery, rechargeable batteries, or regular batteries?"</p> <p>If hears: "car battery" (Transition to 161)</p> <p>If hears: "rechargeable batteries" (Transition to 162)</p> <p>If hears: "regular batteries" (Transition to 163)</p>
161	<p>Says: "Car batteries are the most recycled product in America! Here you usually have two options. First, many local car dealers will take back a used battery. Second, some local recycling centers offer recycling for these batteries. Be sure to contact them to find out!"</p> <p>(Transition to 170)</p>
162	<p>Says: "All rechargeable batteries are recyclable. This is because many companies want to reclaim the valuable compounds they are made of. These compounds are also toxic to the environment, so it's awesome to keep recycling them!"</p> <p>(Transition to 170)</p>
163	<p>Says: "Most ordinary household batteries are recyclable. However, if the batteries are especially old, you will want to check if they contain mercury. If they do, they are not recyclable. You don't have much of a choice other than to throw it away."</p> <p>(Transition to 170)</p>
170	<p>Asks: "Now that you have done your part to help save the planet, would you like to know a fun fact about {020_GetRecyclableType}"</p> <p>If hears: "yes" (Transition to 200)</p> <p>If hears: "no" (Transition to 410)</p>
200	<p>Generates a random number, stores it in {RandomFactNumber}</p> <p>(Transition to 210)</p>
210	<p>Looks up {RandomFactNumber} in Facts_Spreadsheet.xlsx. Stores fact in {Description} (Transition to 220)</p>
220	<p>Says: "Alright! Here goes nothing!", Says {Description} (Transition to 230)</p>
230	<p>Says: "How was the fun fact? Can you give me a rating on a scale on 1 to 5 so I can improve in the future?"</p> <p>If hears {number between 1 and 5} save value in {FactFeedbackNumerical}, (Transition to 240)</p>
240	<p>Saves{FactFeedbackNumerical} into Facts_Numerical_Feedback.xlsx. (Transition to 400)</p>



300	Generates a random number, stores it in {RandomJokeNumber} (Transition to 310)
310	Looks up {RandomJokeNumber} in Jokes_Spreadsheet.xlsx. Stores joke in {Description} (Transition to 320)
320	Says: "Alright! Here goes nothing!", Says {Description} (Transition to 330)
330	Says: "How was the joke? Can you give me a rating on a scale on 1 to 5 so I can improve in the future?" If hears {number between 1 and 5} save value in JokeFeedbackNumerical}, (Transition to 340)
340	Saves {JokeFeedbackNumerical} into Jokes_Numerical_Feedback.xlsx. (Transition to 400)
400	Says: "Thank you for your feedback!" (Transition to 410)
410	Asks: "If you'd like to continue saving the Earth, I'm still here to help! Say 'recycle' or 'joke' to continue, or say 'end' to end the call." If hears: "recycle", (Transition to 100) If hears: "joke", (Transition to 300) If hears: "end", (Transition to 500)
500	Says: "Thank you for being so Earth-Conscious! Have a great day". (Ends call)

Table 6: State Table for Binny the Bot



Sample K-Script

Who	Observable Action		
Speech System	"Hello! My name is Binny the Bot. I'm here to help you save the Earth today. If you'd like to recycle something, say 'recycle'; if you would like to hear a joke, say 'joke'; if you would like to hear a fun fact about recycling, say 'fact'; otherwise, say 'end' to end the call."		
User	"Joke"		
Speech System	"Alright, here goes nothing! How do prius owners drive? A: One hand on the wheel, one hand patting themselves on the back"		
Speech System	"How was the joke? Can you give me a rating on a scale on 1 to 5 so I can improve in the future?"		
User	"Uhh..."		
Speech System	"Sorry, I didn't understand that. Can you give me your rating as a number between 1 and 5."		
User	"3"		
Speech System	"Thank you for the feedback! If you'd like to continue saving the Earth, I'm still here to help! Say 'recycle', 'joke' or 'fact' to continue, or say 'end' to end the call."		
User	"End"		
Speech System	"Thank you for being so Earth-Conscious! Have a great day"		

Table 7 : Sample K-Script for 80% Interactions with Binny V3.0



Sources:

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https://www.huffingtonpost.com/entry/psychology-of-why-people-dont-recycle_us_57697a7be4b087b70be605b3

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Detailed Call Flow

