CHATBOT ACCESSIBILITY PLAYBOOK

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Front Matter (Chapters 1-3)

Version 1

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EXECUTIVE SUMMARY

CONTEXT: Government services are shifting to web-based platforms to benefit from the cost and time saving advantages inherent in these technologies, while increasing the relevance and level of service provided. Interactive technologies like chatbots can provide high-level targeted services by answering common questions, fulfilling simple requests, and gathering preliminary information for complex requests without human supervision - saving time and money, while providing value to the user. As the U.S. government's online services are meant for a broad cross-section of citizens, they must provide satisfactory experiences to all users, including those with disabilities.

CURRENT PRACTICE: The World Wide Web Consortium (W3C) provides accessibility standards for websites, which entities like the United States government reference in their accessibility requirements.

GAP IN TECHNOLOGY: Current accessibility standards do not offer specific guidance for developing accessible chatbot interfaces. This gap means that development teams are likely to produce chatbot content and interfaces that are inaccessible or needlessly difficult to users with disabilities.

KEY POINTS: A chatbot must be well-integrated into the surrounding website or app and provide interface solutions for a range of input and output devices and techniques. A chatbot's interface, content, and dialogue should be simple and straightforward. The development team should follow existing accessibility standards wherever they apply and include diverse users throughout the design process, as there is no "one size fits all" solution to accessibility. This playbook synthesizes academic, government, and industry sources to recommend "plays," which are targeted interventions and activities that a chatbot development team can use to achieve these ends and maximize the accessibility of a chatbot.

ACCESSIBLE CHATBOT OUTCOMES: By ensuring that all users have access to digital services, government agencies can reduce operating costs, reach a broader userbase, improve public perception, and avoid accessibility-related litigation. The public gains access to products that meet a wider array of user needs, improving experience for all and establishing the importance of accessibility as well as usability. As this playbook covers dynamic, interactive web applications, many of the recommendations apply to digital elements with similar dynamic characteristics, such as wizards.

TABLE OF CONTENTS

1. INTRODUCTION

Public services are increasingly shifting to web platforms to meet the expectations of citizen users while also offering lower operating costs and increased reach. When implemented well, chatbots and other conversational user interfaces save time and money to effectively and efficiently deliver valuable services to the public. However, the interactive nature of these digital services also creates accessibility barriers to some users with disabilities, denying them access to the benefits of tools like chatbots. This playbook presents actionable recommendations for improving chatbot accessibility.

1.1 Challenges to Developing Accessible Chatbots

The U.S. government is required by law to offer services, including digital services, to all persons regardless of ability without discrimination. There are currently no comprehensive methods for designing or evaluating accessibility for chatbots. Current web accessibility standards are intended to inform web page design and do not offer clear guidance on many chatbot-specific features. Piecemeal guidance can be found in blogs and peer-reviewed articles from industry and academia. These works may address specific chatbot features (e.g., notification styles [1]) or offer rules of thumb referring to general functionality (e.g., chatbot requirements for users with cognitive impairment [2]). Nevertheless, the body of accessibility guidance directly applicable to chatbots is scattered, inconsistent, and lacks substantial empirical support.

The most widely used standard for web accessibility is the Web Content Accessibility Guidelines (WCAG) published by the World Wide Web Consortium (W3C). WCAG guidelines primarily focus on the appearance and functionality of web resources. Dynamic capabilities and services, like chatbots, are more complex and present additional accessibility challenges (e.g., consistent, accessible navigation between the webpage and the chatbot).

1.2 Solution: The Chatbot Accessibility Playbook

A recent survey[3] of the state of the art in accessible chatbots compiled a list of recommendations to build and assess chatbot accessibility. This playbook organizes the recommendations into five "plays" spanning the development process. Each recommendation is accompanied by straightforward activities grounded in user research and design principles to spark necessary conversations with users, eliciting their needs for the development team to address. There is no single play, recommendation, or activity which guarantees accessibility; when incorporated into the chatbot design and development process, each activity contributes to improving accessibility of the final product.

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1 Caroux, L., Consel, C., Merciol, M. et al. Acceptability of notifications delivered to older adults by technology-based assisted living services. Univ Access Inf Soc 19, 675–683 (2020). https://doi.org/10.1007/s10209-019-00665-y

2 Baldauf, M., Bösch, R., Frei, C., Hautle, F., Jenny, M.: Exploring requirements and opportunities of conversational user interfaces for the cognitively impaired. In: Proceedings of the 20th International Conference on Human-Computer Interaction with Mobile Devices and Services Adjunct, Barcelona, Spain, September 2018. pp. 119–126. Association for Computing Machinery, New York, NY, USA (2018). doi: 10.1145/3236112.3236128.

3 Stanley, Jeff, et al. "Chatbot Accessibility Guidance: A Review and Way Forward." Proceedings of Sixth International Congress on Information and Communication Technology. Springer, Singapore, 2022.

1.2.1 Playbook Intent

This playbook is intended for any team designing, developing, or evaluating a chatbot. It synthesizes existing accessibility guidance from academia, industry, and government and presents actionable advice for improving the accessibility of chatbots. The recommendations apply existing best practices from WCAG to specific chatbot elements while also addressing gaps in the current guidelines with respect to chatbots.

The recommendations in this playbook are presented as a matter of *accessibility*, rather than *usability.* A design choice can both be an accessibility improvement for one user (making it possible for that user to use the chatbot) as well as a usability improvement for another (simply making the chatbot easier to use). For example, a person with dyslexia may not be able to understand chatbot messages with complicated policy jargon. If the chatbot uses plain language, users with dyslexia will be able to understand the chatbot's messages (improved accessibility) while users without dyslexia will enjoy a more natural and easier to understand chatbot conversation (improved usability).

1.2.2 Playbook Overview

Each play in this playbook consists of a set of recommendations informed by current accessibility research and the authors' expertise. Under each recommendation is a list of activities to support meeting the recommendation. These activities draw on the principles of user-centered design, human factors engineering, and user experience research and help development teams determine how a particular recommendation can improve their chatbot's accessibility.

Each play is tagged with the development team role(s) that we believe may be best suited to complete the activities in that play (see Section 3.2) to support efficient division of labor. However, all team members may review each of the plays and associated opportunities for accessible design to gain a better understanding of the overarching principles of accessible design.

Each recommendation is tagged with the W3C disability group(s) for which it improves accessibility (see Section 3.3). While each development effort should seek to make web services available to the greatest number of people, the design team may use these tags to explore how the chatbot serves each category of disability.

The two most critical recommendations in this playbook are "include people with disabilities" and "follow WCAG guidelines," which is why they appear within multiple plays. When facing challenging design decisions regarding accessibility, the most effective baseline approaches are to consult a diverse group of target users and to leverage existing standards for accessibility.

2. BACKGROUND

This section explores topics related to chatbots and web accessibility. It defines chatbots and describes the importance and status of accessibility for digital content in general, and chatbots and partially-automated conversational interactions specifically.

2.1 What is Online Accessibility?

Online accessibility means providing people with disabilities "access to information comparable to access available to others."[4] To this end, the World Wide Web Consortium (W3C) publishes Web Content Accessibility Guidelines (WCAG, currently version 2.1), which provide requirements and associated success criteria for web designers, developers, and testers to evaluate the accessibility of their applications.

WCAG specifically addresses "blindness and low vision, deafness and hearing loss, limited movement, speech disabilities, photosensitivity, and combinations of these, and some accommodation for learning disabilities and cognitive limitations." WCAG's guidelines are categorized within the principles of Perceivability, Operability, Understandability, or Robustness (represented by the mnemonic POUR)[5] . Digital.gov and Webaim.org also provide useful introduction and resources on accessibility.

2.2 Why Does Accessibility Matter?

Up to a quarter of Americans have at least one disability.[6] Accessibility is critical for any government or consumer service, including those offered or supported by chatbots. In the US, there are legal requirements for accessibility as set forth by the Americans with Disabilities Act (ADA) and Section 508 of the Rehabilitation Act (commonly referred to as Section 508). Other countries have similar requirements and standards, like Canada's Accessible Canada Act [7].

In addition to improving web access for internet users with disabilities, accessible websites provide a better experience for all users, regardless of ability. Accessible design principles apply not only to users with permanent or long-term disabilities: Consider users that don't speak English (in the U.S.), a user with temporary vision loss while recovering from eye surgery, or elderly users with little technology experience. These users may experience a situational or temporary limitation which renders resources they've accessed in the past temporarily inaccessible [8]. Ensuring accessibility for people with permanent disabilities also creates an accessible experience for users with temporary limitations and opens the door to engaging successfully with more users.

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4   IT Accessibility/Section 508 (2021). www.gsa.gov/section508
5   See an overview of WCAG guidelines at https://www.w3.org/WAI/standards-guidelines/wcag/glance/.
6   Disability Impacts All of Us (2021). https://www.cdc.gov/ncbddd/disabilityandhealth/infographic-disability-impacts-all.html
7   Summary of the Accessible Canada Act (11 Nov 2020).
https://www.canada.ca/en/employment-social-development/programs/accessible-people-disabilities/act-summary.html
8   Redfern, Dave. Inclusive Web Design – Why Our Websites Should Be More Accessible (7 Oct 2016).
https://www.iweb.co.uk/2016/10/inclusive-design-why-our-websites-should-more-accessible/

2.3 What is a Chatbot?

Chatbots are defined as *chat applications in which human customers engage in conversation with an automated, nonhuman service representative*. Chatbots can be delivered through a variety of modalities to increase utility for users: by text message, through a chat platform such as Slack or Facebook Messenger, or by being embedded in a website. Human language technologies and decision-making algorithms enable chatbots to respond to users without the intervention of a human operator, making them a cost-effective solution to help users save time and organizations save resources while addressing simple questions and tasks. In government applications, chatbots can help users find the information they need online, identify services to request, and assist with filling out forms to request services. As technology improves, chatbots may be able to not only locate relevant policy and guidance but also decipher it into everyday language that applies to a user's particular case.

Multiple government agencies already employ chatbots, in addition to traditional websites, to provide information and support routine processes [9]. The COVID-19 pandemic has highlighted the importance of online digital services and prompted the release of multiple new chatbots. Recent examples in the U.S. include symptom self-checkers fielded by the Centers for Disease Control and Prevention (CDC) and the Department of Veterans Affairs (VA). The Department of Education's Federal Student Aid website employs Aidan to help users access services (see Figure 1).

Figure 1. Aidan is a chatbot on the Federal Student Aid website (source: studentaid.gov)

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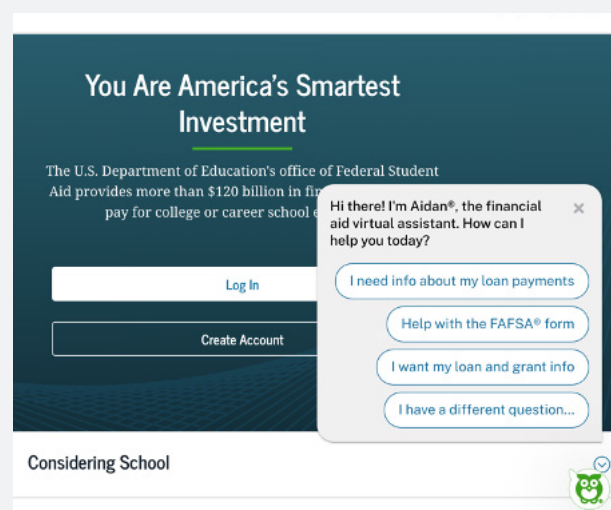
9   Giura, Ruxi. Using Chatbots to Improve Customer Experience (7 Apr 2021).
https://digital.gov/2021/04/07/using-chatbots-to-improve-customer-experience/

2.4 Accessibility in Chatbots

For all the advantages chatbots offer, their adoption raises accessibility concerns. Chatbots offer different functionality and interactions than traditional websites which create new accessibility challenges. Some of those challenges are listed in Table 1.

Challenge	Impacted Users
Chatbot conversations may have a "timeout" which terminates the conversation after a certain period of inactivity. The timeout may be too short if the user has a condition or uses assistive technology that limits their response speed.	Assistive device users, users with conditions impacting response time
New messages may be sent while the user is reading the prior message, disrupting the reading device's focus or shifting the text without warning.	Assistive device users, users with dyslexia, users with cognitive or learning disabilities
Typos may disrupt the chatbot's understanding of conversation content.	Users with dyslexia or users with cognitive disabilities
Assistive devices may not be able to access response option buttons or tiles that the chatbot offers.	Assistive device users

Table 1: Examples of Accessibility Challenges and the Users Who May Experience Them

WCAG 2.2 [10], which is not formally released as of the end of 2021, only mentions chatbots as an accessible solution to Success Criterion 3.2.6 "Findable Help". The instructions included in that WCAG guideline specifically for chatbots are:

- Tolerate typos in user messages
- Transition to human support after three failed attempts to answer the user's question
- Allow dismissal and recall with a single action or button

Although developed for general internet content, WCAG guidelines can and should be applied to chatbots whenever possible. For instance, Success Criterion 1.4.1 "Use of Color" requires that color not be used as the only visual means of conveying information, indicating action, prompting a response, or distinguishing a visual element. When applied to chatbots, this means that the color of text or text background should not be the only identifier of a message's author. Labeling messages ("You wrote:"), horizontal alignment of messages, and author avatars can all help to visually differentiate between messages from different authors, as shown in Figure 2.
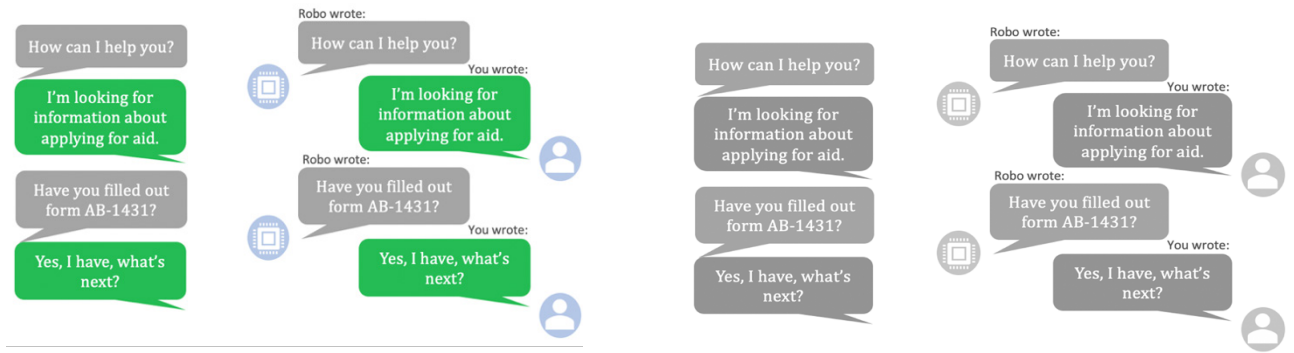

Figure 2: Application of WCAG Success Criterion 1.4.1, Use of Color, to a chatbot interface. In color (left) and in greyscale (right)
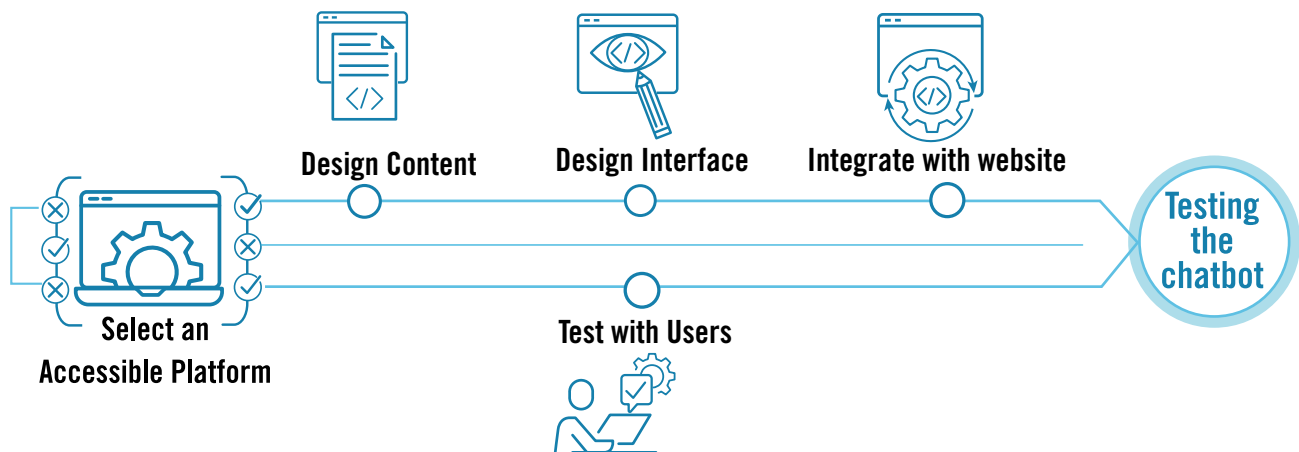
3. HOW TO USE THIS PLAYBOOK

This section outlines the playbook solution introduced in Section 1. It describes the structure, components, and intended use of the playbook. In this section you will learn more about key steps in creating an accessible chatbot through "plays", understand what a chatbot development team looks like, read about tools like personas that help identify user needs, and visualize the end-to-end design and development timeline.

3.1 Plays

The primary accessibility goals are summarized at the beginning of each play. As with any software development, the process for designing and developing a chatbot varies case by case, but there are some key plays in every development effort. The plays include selecting a chatbot platform, designing the chatbot content, designing the chatbot interface, integrating the chatbot into the host

Figure 3: Chatbot Development Plays

Design Content   **Design Interface**   **Integrate with website**

Testing the chatbot

Select an Accessible Platform   **Test with Users**

website or application, and testing the chatbot. These plays are presented in Figure 3.

The first play is **selecting the chatbot platform**. This may include some back-end (e.g., language processing) components and some front-end (e.g., look and feel) components. Some platforms offer more customization than others. It is important to consider accessibility and flexibility during this play because a more accessible chatbot platform will save development and testing time later in the process, and a more flexible platform will accommodate a broader range of accessibility customizations.

After selecting the chatbot platform, the chatbot development team needs to **design the content and the interface.** The content is comprised of the conversation messages and the chatbot's ability to understand the user's messages. The interface includes the chatbot window appearance and the accessibility of interactive functions like buttons. Both plays offer many opportunities to make choices for accessible (or inaccessible) design.

The chatbot will most likely be **integrated into a host website or smart phone application**, which can present unique accessibility challenges. While the website and the chatbot window may both be very accessible, navigation to and from the chatbot window and notifications for new chatbot messages may hinder people with disabilities who try to use the chatbot.

Throughout the chatbot design and development process, it is critical that the development team **test the chatbot** directly with target users. "Target users" means the types of users the chatbot is meant to serve (e.g., small business owners, people with urgent healthcare questions, residents of a specific city). Target users are typically defined by goals. Except for very specific circumstances, your target users shouldn't be defined by disabilities. For example, a chatbot that answers routine questions about Social Security benefits may be used more often by people near or above the national retirement age; the target users may be adults over 50 years old. These users have an increased incidence of vision or hearing loss and cognitive impairment than the general public. Therefore, it's important to test this chatbot with older users that have multiple disabilities as well as older users without disabilities.

3.2 Chatbot Development Team

Chatbots are usually developed by teams of people with complementary skillsets. A typical team consists of a Product Owner, Designer, Developer, and Tester. One person may have multiple roles or switch between roles if the team is small. On a large team, multiple people may share the responsibility of one role. Each role has certain responsibilities to promote chatbot accessibility. In each play, certain roles carry the responsibility for activities that improve chatbot accessibility.

Product Owner   **Designer**   **Developer**   **Tester**

3.2.1 Product Owner

The Product Owner may be a program manager, product manager, or a similar role. They represent the voice of the government agency or business to ensure the development team understands the meaning, mission, and function of the chatbot and any additional information needed for clarity and commitment. Together with the development team, the Product Owner creates the acceptance criteria for the chatbot and ultimately accepts or rejects the chatbot. By prioritizing accessibility, the Product Owner sets the precedent for other members of the team to do the same.

In cases where the chatbot will be adapted from a commercial off-the-shelf (COTS) product by an external vendor, the Product Owner is responsible for understanding the users' needs

regarding chatbot capability and accessibility and working with the Tester to validate the vendor's accessibility claims. If the COTS product is customizable or has accessibility gaps, the Product Owner must work with the Designer, Developer and vendor to identify how the team can adapt the COTS chatbot to improve accessibility. During testing (which should occur throughout the process), the Product Owner helps maintain a holistic view of the chatbot requirements and reconciles conflicts between accessibility and capability when needed.

CRITICAL PHASES

| Selecting the chatbot platform | Designing Chatbot Content | Design Chatbot Interface | Integrating the Chatbot | Testing the Chatbot |

3.2.2 Designer

The Designer may have a background in user interface (UI) design, human-centered design, user experience (UX) design, or another related field. The Designer will make decisions related to the functional content and operation of the chatbot, and is responsible for conducting user research, collaborating with the Product Owner on user stories, designing wireframes, and working with the Tester to conduct usability testing. When the Designer incorporates accessibility into the design process, the chatbot meets a broader range of user needs.

The Designer works regularly with target user communities to understand user needs and elicit task needs from current and desired system functionality. The Designer is responsible for including diverse users in initial and end-stage research, and creating user stories and personas that capture diverse accessibility requirements. While the Designer focuses on designing the accessible conversational content and interface, they may be less involved in the accessible integration of the chatbot into the website. The Designer's user research is translated into usability and accessibility testing requirements and scenarios, and the Designer uses testing results throughout the design process to refine user stories, personas, and design products.

CRITICAL PHASES

| Designing Chatbot Content | Design Chatbot Interface | Testing the Chatbot |

3.2.3 Developer

The Developer must have web application development experience because they are ultimately responsible for implementing the chatbot capability. The Developer is responsible for working with the Product Owner and Designer to identify, clarify, estimate, and commit to delivery of the chatbot service. The Developer also defines, writes, and tests the source code to implement the agreed-upon features to meet the acceptance criteria. Although the entire Development Team should be familiar with WCAG guidelines and success criteria, the Developer is responsible for implementing the code for an accessible chatbot.

Whenever possible, the Developer should evaluate COTS products for functionality and accessibility. Instead of developing code from scratch, the Developer may leverage pre-existing code that has already been proven to support accessibility, like the U.S. Web Design System. The Developer may not have an integral role in writing the chatbot content. They bear primary responsibility for developing an accessible interface and integrating the chatbot into the website accessibly. Accessibility gaps revealed during testing need to be addressed along with bugs and feature updates.

CRITICAL PHASES

Selecting the chatbot platform	Designing Chatbot Content	Design Chatbot Interface	Integrating the Chatbot

3.2.4 Tester

The Tester may have experience in code development, user research and testing, or the application domain. They have a clear understanding of the chatbot's purpose and requirements and can write and conduct user testing events throughout the design process to validate the chatbot's functionality, performance, security, usability, and accessibility. The Tester is the ultimate gatekeeper for accessibility

Along with the Designer, the Tester will design test protocols and select users to participate in the user testing. The Tester should be familiar with accessibility success criteria from WCAG, design user tests to assess accessibility, and select a diverse group of target users to test the chatbot. Wherever possible, the Tester should conduct early, frequent user testing on the chatbot platform, conversational content, interface components, and chatbot integration with the website. Accessibility gaps, along with any problems with functionality and usability, should be brought back to the rest of the chatbot development team to address as early as possible to minimize wasted time and development effort.

CRITICAL PHASES

Testing the Chatbot

3.3 Diverse Abilities

W3C identifies five categories of disability, which are visual; auditory; cognitive, learning, and neurological; physical; and speech. Within each of these categories exists a wide range of abilities, meaning that all users with a particular disability in a category do not experience the same challenges as others with a different ability profile in the same category.

A holistic tool for user-centered design is the persona. Personas are brief summaries of a fictional user's demographics, goals, pain points, and context of using a given product. Personas can help you understand and build empathy with users. Multiple personas should be used together to cover key traits of target users because no single persona can fully capture all key traits. Begin by reading and leveraging WCAG's web user personas or COGA's user personas, which describe realistic fictional people with disabilities and how assistive technology is used for different tasks.

It is strongly recommended that you design your chatbot to provide a satisfactory experience to all users. However, accessibility may need be prioritized based on project timeline, budget, and goals. The project team may choose to focus on a specific user group that the chatbot service is intended to reach. For instance, you may want the chatbot to fill a perceived gap in service for users with hearing impairments who can't benefit from phone support. Alternatively, early user testing may reveal accessibility challenges or frustrations for a particular user group that need to be addressed to improve the chatbot accessibility for that group.

We tag each of the recommendations in this playbook with applicable W3C disability categories to allow you to prioritize for your intended audience. This is not intended as an exhaustive list, but to help shed some light as to how a particular recommendation supports accessibility. We have assigned these tags based our understanding of the presentation of the disability.

3.4 Design Process and Activities

Each play in the playbook comprises multiple recommendations. Each recommendation in turn is supported by multiple activities that can be completed by members of the chatbot development team. The relationship between plays, recommendations, and activities is captured in Figure 4. Some of the recommendations or activities may not apply to every chatbot application, particularly in simple chat-like interfaces like form filling wizards. Each chatbot development team should use its best judgement when choosing the activities to complete.

A chatbot is not developed in a simple, linear effort. Instead, chatbot development occurs in an iterative cycle of phases. There is a process of gathering and organizing ideas, designing and implementing those ideas, and evaluating the results, which may be repeated multiple times as needed. Accessibility is an important component of each phase. Focusing on accessibility throughout the chatbot development

Figure 4. Organization of plays, recommendations, and activities
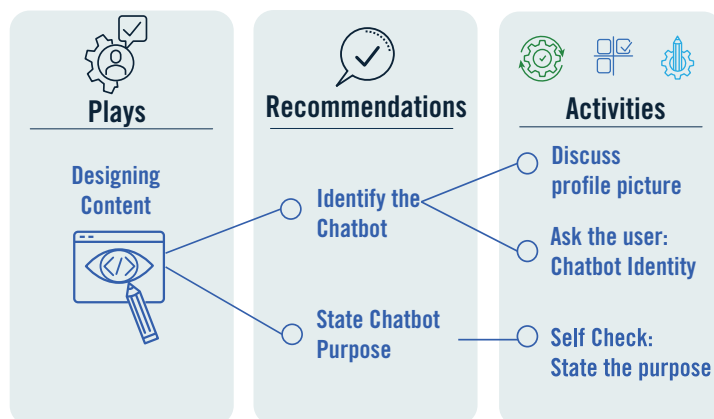
process avoids costly re-engineering of accessibility gaps and mitigates the risk of running out of resources for accessibility testing at the end of development. The activities included in this playbook can be helpful throughout the design process but may have the greatest impact when applied at a particular phase in the process. Figure 5 shows the three phases in the implementation effort and the playbook activities associated with each phase. Descriptions of the phases and activities are below.

Figure 5. The Design Cycle
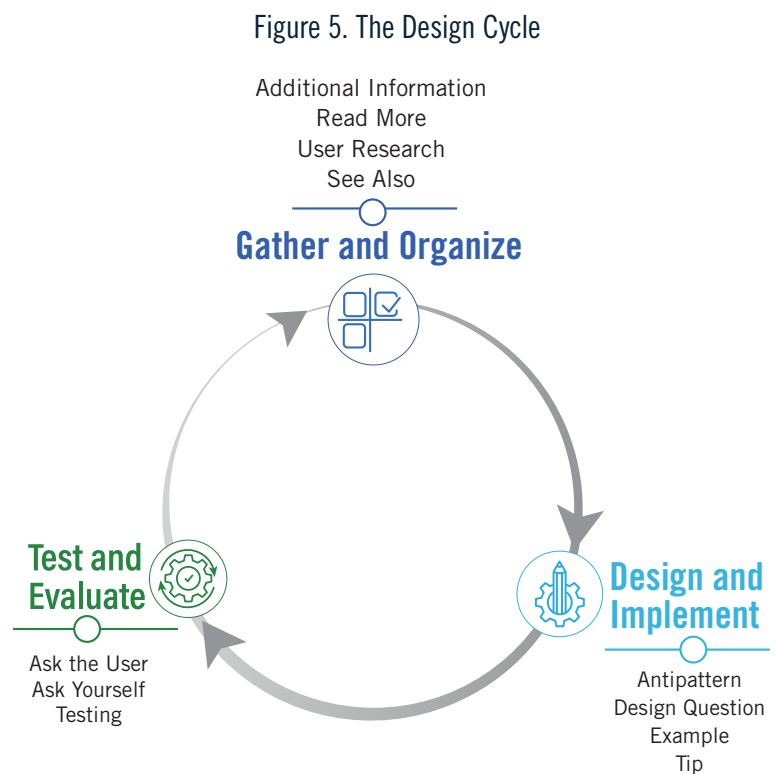
3.4.1 Gather and Organize

In the Gather and Organize phase, the chatbot development team will be learning, asking questions, and prioritizing development tasks. This is the time to understand the users' needs and the gaps in services currently available. Careful consideration of accessibility in the Gather and Organize phase saves development (or re-development) time later in the process.

Gather and Organize activities:

- **Additional Information:** More information about a topic which may not be an accessibility topic but is critical to effective understanding of the (in)accessibility of a chatbot feature. Make sure you understand the topic and can articulate the basics to the rest of the team.

- **Read More:** A list of resources for chatbot accessibility for those who want to take a deeper dive. Any critical information will be included in this playbook, but these outside sources may offer a richer understanding of the topic. Try to scan the contents if time permits.

- **User Research:** Questions to ask end-users or domain experts to reduce uncertainty in design (see a complete list in Appendix A.1). Be prepared to provide the answers to these questions to the team members who will make design decisions for the chatbot.

- **See Also:** A link to relevant content in another section, which may present a different dimension to the same accessibility challenge. Coordinate activities in both sections to avoid repeat work.

3.4.2 Design and Implement

In the Design and Implement phase, the team will narrow down the ideas to one design and bring those ideas to life. This is where the chatbot comes to life and the reality of its accessibility becomes apparent. Taking time to focus on accessible design practices in this phase exposes inaccessible designs early enough to correct them quickly.

Design and Implement activities:

- **Design Question:** An accessibility challenge that has more than one approach the design team can follow to promote accessible design. Consider project-specific constraints like budget, timeline, and chatbot purpose to answer the question and streamline design efforts.

- **Antipattern:** A behavior or design pattern that, while well-intentioned, may be decreasing accessibility. Look out for antipatterns throughout the Design, Implementation, and Test phases to discover accessibility challenges as early as possible.

- **Tip:** An actionable step to improve accessibility. Follow tips whenever possible to maximize accessibility.

- **Example:** An illustration of a recommendation in action. Use examples to make sure you understand the recommendation and mimic examples wherever they meet your needs.

3.4.3 Test & Evaluate

During the Test and Evaluate phase, the team takes a step back to consider the chatbot as a whole. Honest reflection and frank conversations with users reveal situations where the chatbot is less accessible. If the proper attention was given to the other phases, corrections in this phase are easy and relatively painless. Regardless of the outcome, accessibility evaluation by the development team reduces the risk of user rejection.
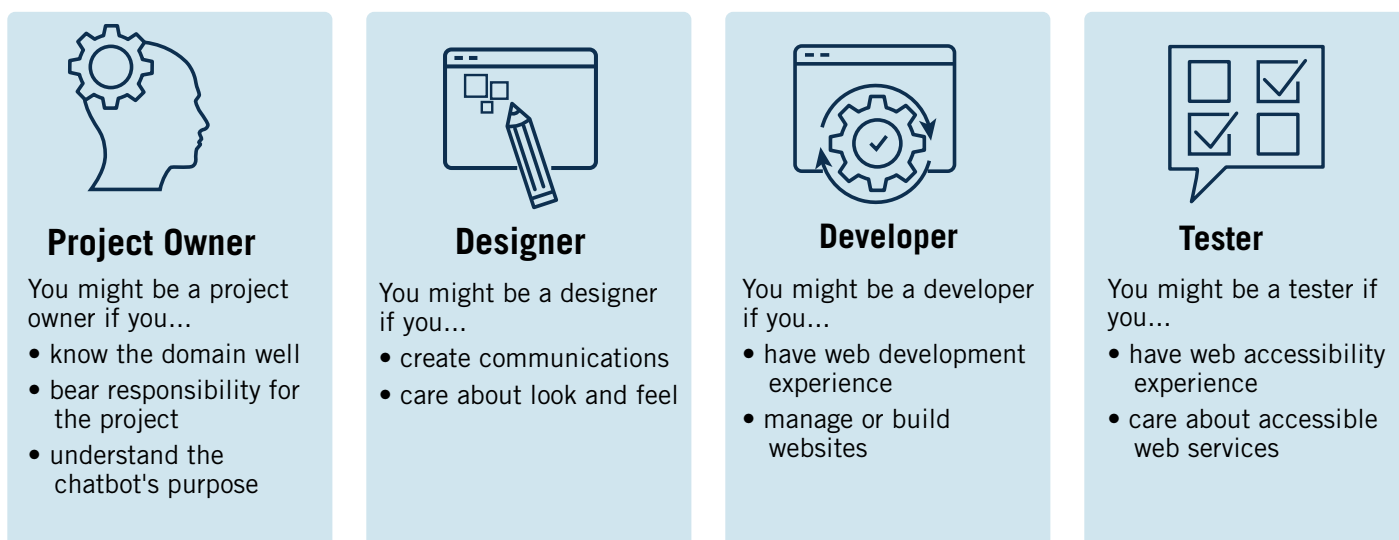
Test and Evaluate activities:

- **Self Check:** A question for the design team to (honestly) ask themselves to quickly assess accessibility (see a complete list in Appendix A.2). Go through the checklist multiple times during the design process to catch opportunities for increased accessibility early.

- **Ask the User:** A questionnaire item to assess accessibility (see a complete list in Appendix A.3). Incorporate these questions into user test questionnaires throughout the design process to evaluate the true accessibility of the chatbot.

  - » Some questions are best asked **mid-study,** immediately after an event occurs, while others are best asked **post-study**, after the user has had a complete experience with the chatbot. We recommend when to ask each question. For more information on when to ask a question, see Appendix A.3.

  - » Some questions offer **subjective** information, where the response is influenced by the scope of the user's background and experiences. Other questions elicit **objective** information, which can be more rigorously analyzed with statistical methods. We recommend the most effective way to collect information from each question. For more information on data types, see Appendix A.3.

▪ **Testing:** Suggestions about how or what to test to evaluate chatbot accessibility. Incorporate these suggestions into the test plan to combine chatbot functional and accessibility testing into the same activity.

3.5 How to Select a Subset of Activities

The list of recommendations and activities in this playbook can be daunting; consider planning periodic accessibility workshops throughout the development process. At each workshop, the chatbot development team will select a subset of applicable recommendations and activities to complete, dismiss, or schedule for later. This section describes how you might select activities for such a workshop.

Figure 6. Identifying roles

Project Owner

You might be a project owner if you...
• know the domain well
• bear responsibility for the project
• understand the chatbot's purpose

Designer

You might be a designer if you...
• create communications
• care about look and feel

Developer

You might be a developer if you...
• have web development experience
• manage or build websites

Tester

You might be a tester if you...
• have web accessibility experience
• care about accessible web services

To begin, identify the role or roles (see section 3.2 for role descriptions, or Figure 6 below) that each person present satisfies. On a small team, one person may have the skills to serve as more than one role. On a larger team, multiple people may represent the same role. It will be more productive to focus on recommendations relevant to the people participating in the workshop.

Next, use the flowchart in Figure 7 below to choose **one or more plays** to address. The symbols next to each play represent the most critical roles involved in the play; try to choose plays with these critical roles present for the workshop.

Each recommendation will list multiple activities to support the recommendation. Some of these activities are more applicable in different phases of the design process (see section 3.4 for descriptions of the phases of the design process). Using Figure 8 below, identify the **phase or phases** closest to the current state of chatbot development. Ultimately, the project may cycle through these phases multiple times, and less relevant activities will become more relevant.

Optionally, you may choose to narrow the focus of the workshop by identifying a specific disability type to address (see section 3.3 for disability type descriptions). This may be due to the priorities of the project to serve a particular target user group or overcome a specific accessibility gap. Is there a group of users you're aware of that have an especially hard time using a chatbot for this task?

Figure 7. Choosing a play
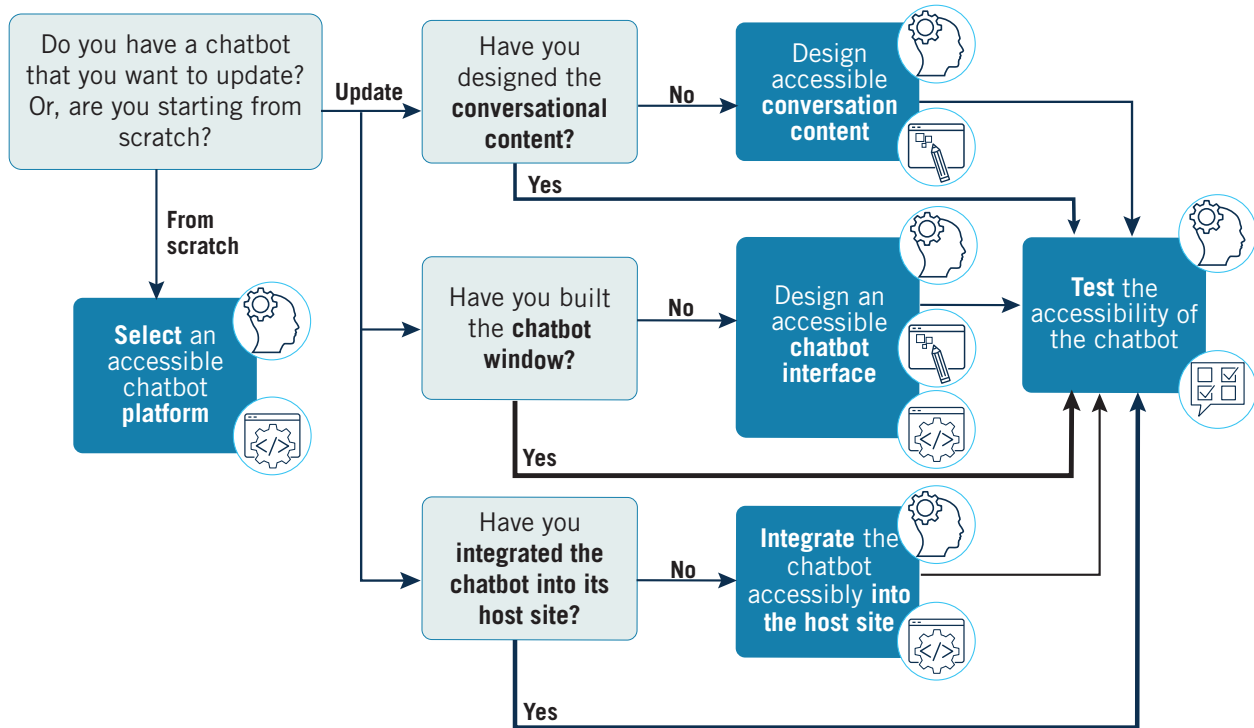
Alternatively, is there a group of users that you're especially interested in reaching for this task? This is not to say that other disability types won't be addressed, just that focus is narrowed at this moment to single out a small number of activities to complete at the workshop event. Recall that disabilities may be partial or complete (e.g., color-blindness versus lack of vision) and may be permanent, temporary, or situational (e.g., a congenital condition causing blindness, a healing eye injury, or a user who is driving). Someone with a temporary or situational disability may be completely disabled during the period in question, but they may not have the same assistive strategies, mechanisms, technology as someone who has permanent disability.

Decide whether a **specific type of disability** is of particular interest for the workshop.

Figure 8. Choosing a design phase
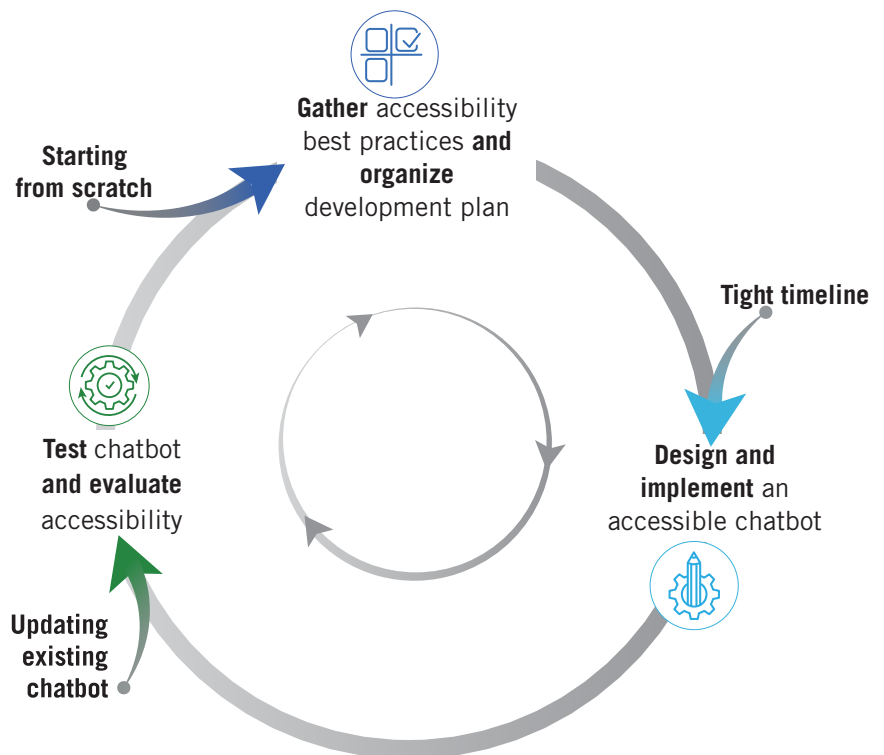
Ultimately, accessibility means that all users can use the chatbot, so be prepared to repeat the workshop for different disability types in the future.

Use the selected **plays** and **disability types** to extract a list of recommendations from this playbook. At the workshop, consider each recommendation as a team – has this recommendation been incorporated into the chatbot already? If so, scan the activities for reference and move on to other recommendations. If not, or if you lack confidence in the approach, step through the activities for the selected **phases.**

For each activity, use the workshop time to complete the activity, dismiss the activity, or assign it to a specific team member to address in the future. If it can be done quickly, like reviewing provided examples, or completely, like answering a design question, do it in the workshop. If the activity isn't relevant to the chatbot application or purpose, dismiss it. Document the rationale for dismissing it as a reference for future sessions. If the activity is assigned to a team member for later, make sure that whoever is responsible for it has enough information to get started and a clear goal and timeline to complete it.

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