Dolby labs

Design Documentation

Fall 2023

Experience Studio

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Project Overview

Audiobooks and podcasts are becoming increasingly common in today's media landscape. People are consuming non-music audio content more than ever before. Dolby hypothesizes that there is an opportunity to provide UGC creators with tools and resources to develop such content in a way that requires minimal effort and generates delightful experiences for consumers. Dolby is working on technologies in this area and is looking to identify opportunities to address these potential needs.

Who are UGC Creators?

UGC creators create media content for an established user base through platforms like YouTube, Facebook, and Instagram. They produce content non-professionally as a hobby.

The team decided to reach out to narrators, podcasters, and writers for their current issues with the audiobook creation process.

Who are we designing for?

UGC Audiobook Creators

For this project, we decided to explore authors in the process of becoming UGC audiobook creators. They share content-creation strategies with

Narrators   **Solo Podcasters**   **Writers**

Problem Statement

Authors want to expand their reach and offer their audience new ways to enjoy their work. Some intend to narrate it themselves and are comfortable in their voice. However, they often **struggle to find tools and resources that can teach them how to narrate** while creating an audiobook for the first time. Additionally, some authors do **not feel comfortable narrating their books**. Authors are often unable to produce audiobooks from home due to a **lack of approachable narration generators and production tools** available to beginners in audiobook creation.

Milestones

To gain a deeper insight into the workflows of UGC creators in the audiobook space, the team created milestones based on design opportunities from the design prompt.

1. **Explore the UGC ecosystem**
   How do UGC audiobook creators currently interact with tools and workflows?
   How can we standardize a workflow for UGC audiobook creators?

Activities

User Interviews	What tools or resources do creators currently use/wish they had during the audiobook creation process?
Affinity Diagramming	How can we group insights that convey pain points and opportunities within the current audiobook creation process?
User Persona	How do we create the "ideal" UGC audiobook creator and illustrate their needs/wants and frustrations in several scenarios detailing the recording process?
Journey Mapping	How do we take the persona and scenarios and capture the emotions expressed during each stage of the audiobook creation process through a current-state journey map?

Metrics of Success
1. Find/Create 3-4 user workflows to understand the space visually and logistically
2. Collaborate alongside users who emulate the qualities of UGC creators attempting to create audiobooks

2. **Identifying Opportunities within Content Creation and AI Spaces**

   What are the current assumptions surrounding content generation when utilizing artificial intelligence programs? How do we address the gaps in the UGC audiobook workflow with current AI tools to ease the burden on new audiobook creators?

   Activities

Secondary Research/Reddit Dives	How does the audiobook community feel about integrating AI tools into their current-state workflows?
Competitive Analysis	How do current AI tools measure up in terms of features and accessibility for UGC audiobook creators?
Writer's Workshop	How can novice writers help inform our understanding of challenges and opportunities within the UGC audiobook creation workflow?
Sketching	How do we create innovative wireframes that meet the needs/wants expressed in user interviews for UGC audiobook creators?

   Metrics of Success
   1. Discover as many design gaps/opportunities within current audio creation practices/tools to address in tandem during our process
   2. Gain a more atypical understanding of the audiobook space with novice writers who have not dabbled in the space before

3. **Evaluate Audiobook Production Onboarding**

   How does onboarding play a role in audiobook production? How does it impact the UGC creation workflow? How can we guide UGC audiobook creators to produce consistent, high-quality audiobooks?

Activities

Low-fidelity Wireframing	How can we implement features into the stages of the audiobook creation process? Onboarding, then Narrating/Recording, then Editing, and finally, exporting the audio file to a wider platform.
Concept/Usability Testing	How effective are our features in addressing the knowledge gaps of novice audiobook creators during tool onboarding, recording, editing, and distributing their work?

Metrics of Success

1. Test our design recommendation concepts with potential UGC audiobook creators to gain validation to proceed or clarity in our design vision
2. Begin laying the foundation for a non-platform-specific audiobook creation tool that aids authors attempting to expand their content to the audiobook space

Process

Interviews

We interviewed ten stakeholders who perform tasks expected of UGC creators. We began by interviewing six narrators to understand their audiobook recording processes. These narrators were a mix of professional and at-home narrators who worked with publishers. Later, we interviewed writers and narrators to understand the overall workflow of audio content creation.

Demographics

We identified three audio production roles with similar journeys to UGC creators.

Narrators

Solo Podcasters

Writers

Interview Goals

1. Understand the workflow of UGC creators when creating audiobooks for a wide range of listeners
2. Learn about potential pain points during the audiobook creation process
3. Uncovering opportunities for generative AI integration into a UGC creator's workflow

Interview Findings

Narrators

Recording Stage	Punch and roll narration is the go-to method; makes it more efficient for workflow
Contacting with Authors	Authors send character breakdowns/descriptions, giving insight into their characters for the narrators to go off of; helps to create something inspired and true to the author's vision
Separating Workflow with Authors	Keep narrators and authors separate because it could strain some of the creativity on both sides

Writers

Moving to Narration	Writers often lack sufficient knowledge of narration tips, leading to exhaustion when they constantly revisit and rework sentences after making errors.
Relying on Narrators	Writers rely on narrators to create higher-quality narration, but writers will need to give guidance to the narrators if writers want to do so.
AI Integration	Writers do not want AI to interfere with their creation process but want AI to give recommendations to keep the workflow efficient.

Solo Podcasters

Podcasting Workflow	Solo podcasters facilitate the end-to-end process of podcasting: scripting, hosting, and production
Podcastor's AI Utilization	To reduce production time, which takes the longest, podcasters use AI tools to speed up their podcast creation process.

What are the experiences and challenges unique to UGC writers?

Narration and writing require distinct sets of skills, as does audio editing. Many writers find themselves overwhelmed when attempting to acquire proficiency in both narration and production skills, often due to a **lack of knowledge** and **available resources** for these tasks. This struggle frequently results in exhaustion as they continually revisit and rework sentences to correct errors.

Our objective is to aid UGC writers in accomplishing three distinct tasks: **writing, narrating, and editing.**

Writer's Workshop

We conducted a workshop with some of our novice writers within Purdue to understand what their emotions and pain points were during the writing process and the impact of AI on their process. We had four writers express their thoughts about the writing space during the 30-minute workshop.

The workshop consisted of three activities to understand the writer's standpoint in this field.

Activity 1 Word Cloud

This activity was mainly to understand the emotions and struggles of a writer.
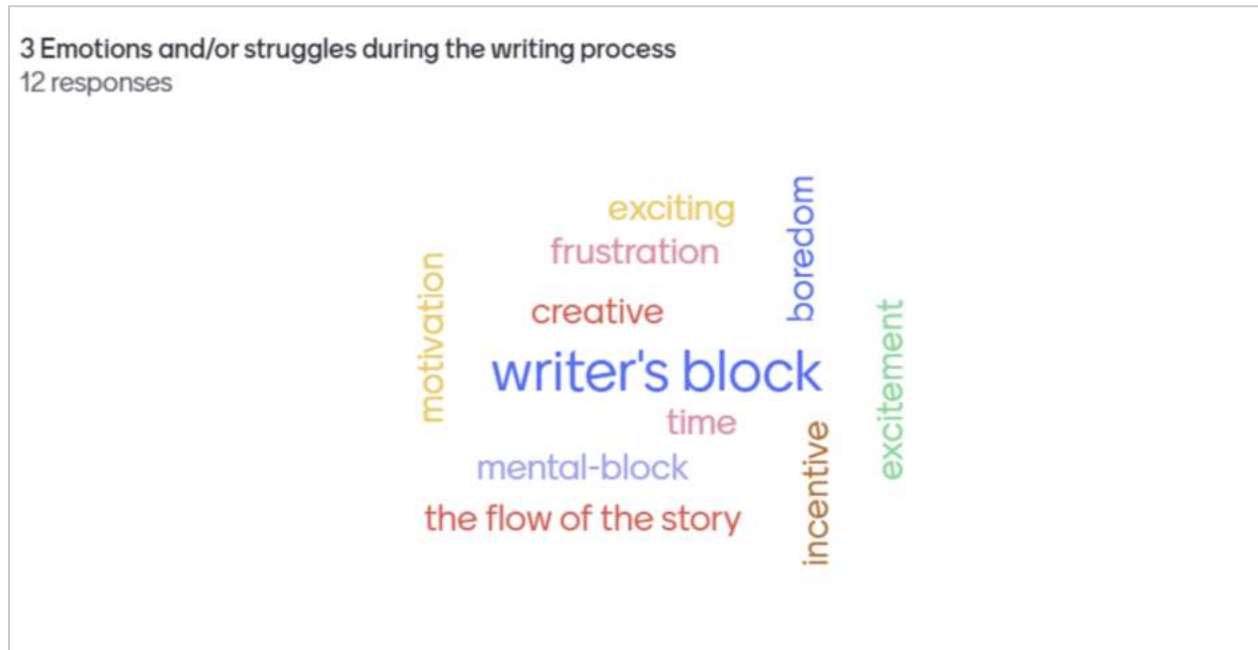
The figure represents the emotions the writers face during the writing process

Some of the common issues include:
- Writer's Block/ Mental Block - Roadblocks occur with the continuation of the plot, ultimately leading to a lack of creativity
- Motivation - Writer's block, uninteresting topics, and time constraints can be demotivating factors.
- Excitement - The thrill of creating something new and taking an idea to execution is most pronounced at the beginning. However, during the planning stage, encountering plot holes, exploring different directions, and dealing with elements like fantasy stories and changing scenes can be more demotivating.

Activity 2 Challenging Assumptions

This activity mainly focused on the assumptions we had about this field and what their takes and ideas were for the questions posed.

Question 1 - AI can feel emotions and cannot reach the point of human emotions and feelings, what is your view on AI aiding with the writing process?

Question 2 - How do you perceive the overall functioning of AI based on the outputs presented to you?
Question 3 - What are your views of AI in the scope of writing?

The key insights we have received with this activity were
- Tools like ChatGPT can be a great aid, however having the tool write the whole essay makes it obvious that it has been written by AI, due to lack of emotions and depth to the plot. Makes the plot all the more outlandish to read
- Character Makeovers: Changing Names and Dialogues, Retaining the Core Plot
- Seamless Transitions: Improving Flow Between Scenes with AI Assistance
- Constructive Feedback: Enhancing Transitions and Providing Creative Insights
- Filling the Gaps: AI's Role in Generating Twists, Transitions, and Creative Ideas

Activity 3 Mind Mapping

The activity was to organize the writer's space into parts to understand their gaps/barriers, allowing them to guide our understanding from their perspective.
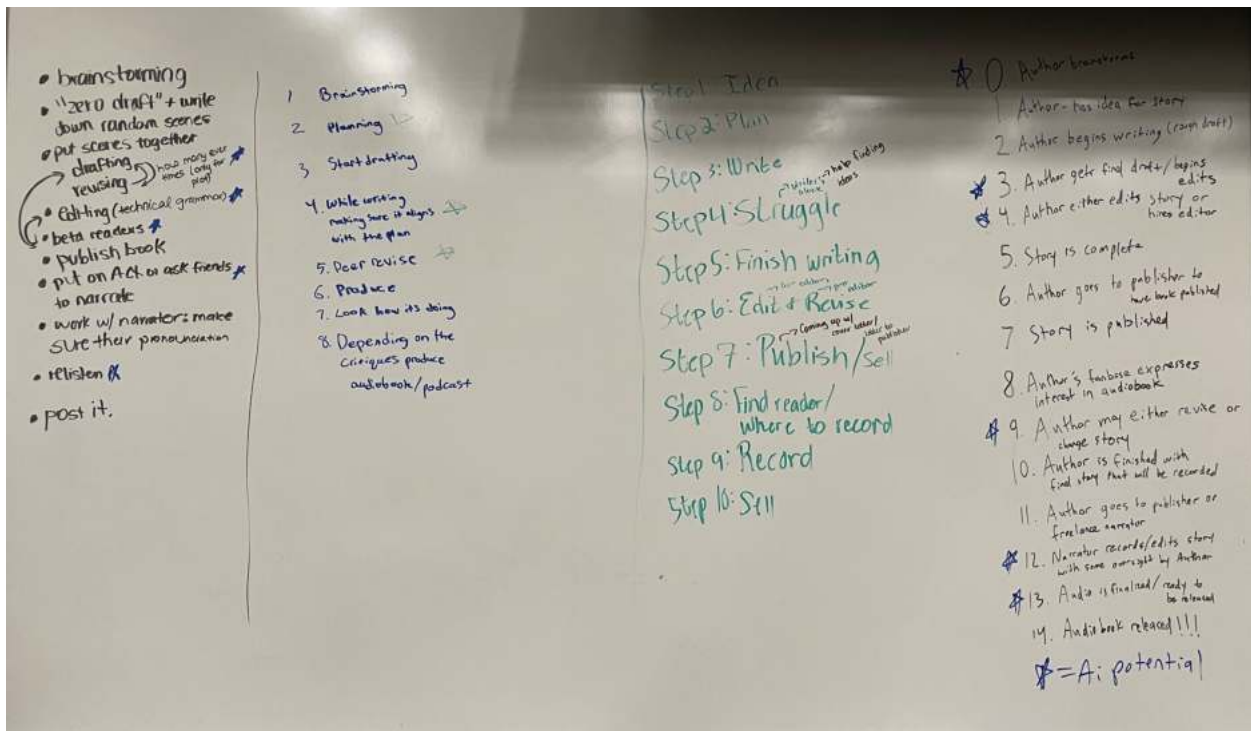

Fig showcases their view of the step-by-step process of creating an audiobook

Each participant wrote their views in a process format on the creation of the audiobook. This was followed by marking each of the steps including AI to make the stage easier and more efficient (marked by stars).

The key insights gathered

- AI can help in the editing process, correcting any grammar and word inconsistencies that may be present
- Posting on ACX for Narration or asking previously collaborated individuals to work with them again
- Iteratively assist in drafting and reusing scenes that can be included within the plot
- Feedback and recommendations after the narration is completed
- Ensuring the scenes being written are sticking to the main plan of the plot
- Guide the writer in direction and ideas during a writer's block

With this, we concluded the workshop with the participants' insightful inputs, which will be utilized in our design process.

What are the existing tools for UGC creators?

Competitive Analysis of AI Tools

We chose to review all the top features and pricing of AI audio editing tools, which helped us get basic knowledge of what solutions already exist. After looking at Adobe Podcast (Beta), MyEdit, Altered AI, Auphonic, and Descript, we highlighted some key features:

1. Audio Enhancement
- Most AI tools had features where users could optimize the sound quality of their recorded audio through the tool
2. Audio/Speech to Text
- AI allows users to create an editable text transcript of audio that is imported through the editing tool
3. General Audio Editor

- Since the tools were editing tools, they included the most general features found in other audio editors
4. <u>Audio Restoration</u>
- A few tools had an AI audio restoration feature where a user would upload an audio file and the AI would repair the audio
5. <u>AI-Generated Sounds/Voice Changer</u>
- Several tools had a feature where users could use AI to generate sound effects or to modulate their voice for recording

Descript and Auphonic influenced our designs and design choices the most out of all the AI tools we analyzed.

What do users look for in original audio content?

Reddit Dive

During the Reddit dive that we did, we asked two questions to the r/Audiobooks Reddit page. Below are summarized answers and takeaways from each question:

Question 1: "Opinions on Graphic Audio?"
1. User Lanky_Needleworker_1 explained that they enjoy graphic audio because the audiobooks become more engaging and it is easier to differentiate characters
- Graphic audio can enhance audiobooks by immersing the listener with sounds and a cast of narrators
2. User DirtyCircle1 believes that graphic audio allows a middle ground between regular audiobooks and dramatizations. They also think that graphic audio helps to craft a world for the listeners
- Graphic audio can capture the attention of people who don't want to listen to a regular audiobook and who don't like audiobooks that are presented as a performance
3. Users EvilFlyingSquirrel and rpp124 don't prefer graphic audio because they say that it can be distracting and can stray users away from the actual story

- Some people don't like the use of graphic audio because the sound effects and narration styles can distract the users from the true story the author intended

Question 2: "What makes you choose an audiobook to listen to? How big of a role do the narrator's voice and/or sound effects play in your decision?"

1. User Leelo_05 said that they enjoy particular narrators and will go out of their way to search for other books narrated by that particular narrator
- Certain narrators may have a particularly good reputation which may entice listeners to seek out other works by their favorite narrators
2. User reddit455 said they make their decision based on the audiobook samples

- Most audiobooks include an audio sample that is available to listeners before they make a purchase. The purpose of the sample is to provide a "trailer" of sorts for an audiobook
3. User AlaskaBlue19 explained that the narrator's voice can make or break a book since the listeners have to deal with their voice throughout the book
- Some narrator's voices can make a book unpleasant to listen to. Instead of listening to a book regardless, some listeners will skip out on an audiobook because of the narrator's voice

Design Recommendations

How do UGC creators currently create audiobooks?

Introduction

To understand how novice audiobook creators start creating audiobooks to expand their audience, we crafted a persona that encapsulates similar tasks and journeys to novice narrators, podcasters, and writers. We based our persona on the fact that they write stories as a weekend hobby while working full-time to sustain themselves.

User Persona

"You should automate making an audiobook, it's too many apps"

Allison

Age 27 y/o

Location Merrillville, IN

Occupation Research/Technical Writer
Income Less than $65k
Hobbies Listening to Audiobooks, Reading, Watching TV Shows

Bio

Allison has a background in fiction, fantasy writing and has been writing short stories as a pastime. She has self-published some of her work on platforms like kindle direct publishing. Having learned about the growing interest in audiobooks, she wants to explore how to reach a broader audience. Since she is a science writer for a living, she wants to convert her creative writings into audiobooks, so it might be more profitable.

Wants & Needs

· **Find** editing tools/recording software that's cheap/free to use
· **Distribute** her audiobook out to as many people as possible through an affordable platform
· **Seek out help** from a mentor in the audiobook industry
· **Budget:** $300 for tool features & recording equipment

Frustrations

· **Limited** time to produce an audiobook while juggling her responsibilities as a science writer
· **Talented** at writing fantasy stories, but doesn't have the technical skills nor top-of-the-line equipment for recording and post production editing

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Goals

1. Aid Allison with accessing **affordable recording tools** and resources without relying on **external YouTube tutorials**.
2. Build her **self-confidence** with recording tools to reach a **broader audience** with her audiobook interpretation

Scenario A

Allison wants to start translating her published novel into an audiobook. She searches for popular recording tools and comes across Audacity. She begins downloading Audacity, a free audio recording platform, onto her laptop. When she sees the interface for the first time, she navigates towards the "Record" icon and presses it. She speaks into her external microphone and records a 10-second book excerpt sample. She realizes that the external microphone was not selected as the Recording Device. This is due to the application lacking a tutorial embedded into the first time launching Audacity. Allison searches for a quick, free tutorial about recording samples in Audacity on YouTube. She found a video entitled "How to use Audacity to Record & Edit Audio | Beginners Tutorial". After watching, she goes back into Audacity and re-records the 10-second sample, making sure to select her external microphone as the Recording Device.

Scenario B

Allison has figured out how to start recording dialogue from her print books, but she is not confident in her performance skills. She did not go to college for theatrical pursuits but still wants to put her work to a broader audience. Since YouTube has been a free, accessible resource for her audiobook endeavors, she re-enters the website and finds a video entitled "Audiobook Performance Masterclass" The video goes over the basics of recognizing and voicing the three types of third-person narration, how to treat narrative text as a character unto itself, and how to bring your style to your interpretation of the text. Allison decides to try these techniques in her next sample recording.

Scenario C

Allison is now confident in recording her work after playing the recording back. However, in the middle of the playback, she notices background noises and uneven sound levels. She does not know the editing techniques to correct this, so she ventures back into YouTube and finds a video entitled "How To Remove Background Noise in Audacity". After watching the video, she understands how to adjust her EQ settings, use the Filter Curve, and use the Compressor. However, she seeks a more efficient method, preferably within Audacity or another program, to acquire audio recording and cleaning skills without relying on YouTube tutorials.

Challenges

From these individual scenarios, we compiled four main challenges confronted by Allison in her pursuit of creating an audiobook:

1. She has a **limited budget** for her creative work, so she has to be mindful of all tools and resources she invests in. However, she is unsure of how to start recording dialogue from her printed books.
2. She **doesn't know how to perform dialogue** or prepare for a recording session. She doesn't know how to deliver her characters' lines. She wants something to guide her through the process.
3. Living in a **studio apartment** without **insulation foam** means her recording area is prone to **tinny background noises for every take**.
4. During any recording session, she tends to make **sibilant sounds** (hissing s's) and the **occasional vocal fry** (low vibration during speech). Having consumed audiobooks herself, Allison wants to make sure she isn't making the same errors that she finds unappealing.

How can we streamline a more efficient audiobook creation process for UGC creators?

Onboarding
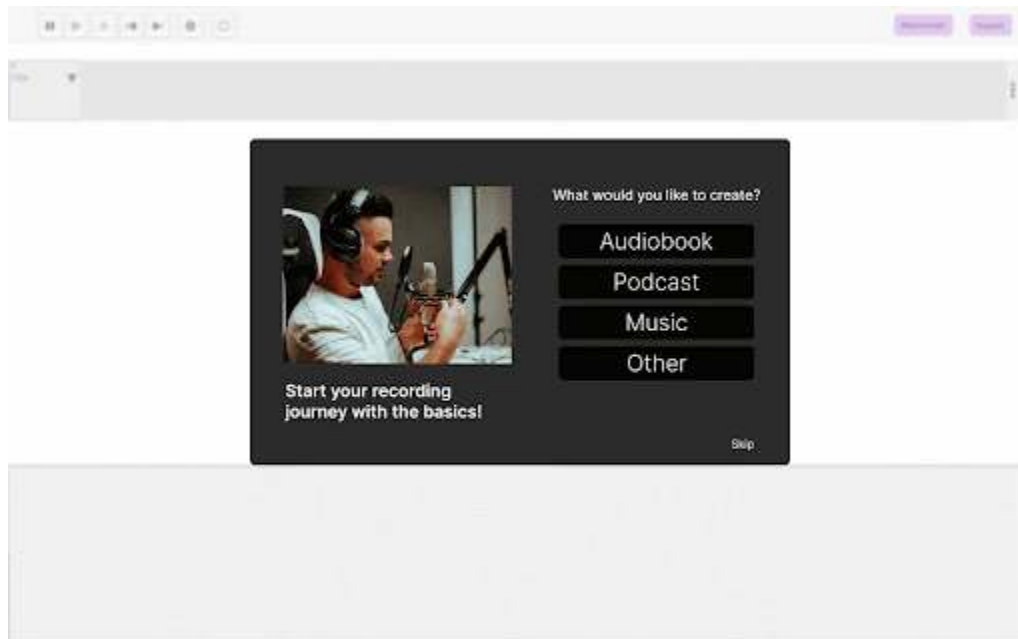
Before creating audiobooks, podcasts, and music, creators need to **understand** how to use online tools and how to **incorporate them** into their workflow. When analyzing our interview insights from writers, podcasters, and narrators, we brainstormed possible tool/feature concepts. We had the goal of keeping these concepts **simple and information-light to start.** To move forward with prototyping and sketching, we decided to conduct two rounds of user testing: **concept and usability testing.**

After testing with potential UGC audiobook creators, we envisioned an **onboarding process** as a logical first step to help. When these creators think about starting to make audiobooks, they get confused with learning different tools and resort to watching YouTube tutorials. This makes our users **overwhelmed and unconfident** in their skills. To address the lack of confidence in UGC audiobook creators, we created non-platform-specific onboarding screens to **guide them through** the audiobook creation process. These screens would help:

1. Creators select their preferred audio creation process
2. Guide them through tool features & expectations/examples
3. Transition them into the AI Narration teaching tool

Narration Helper
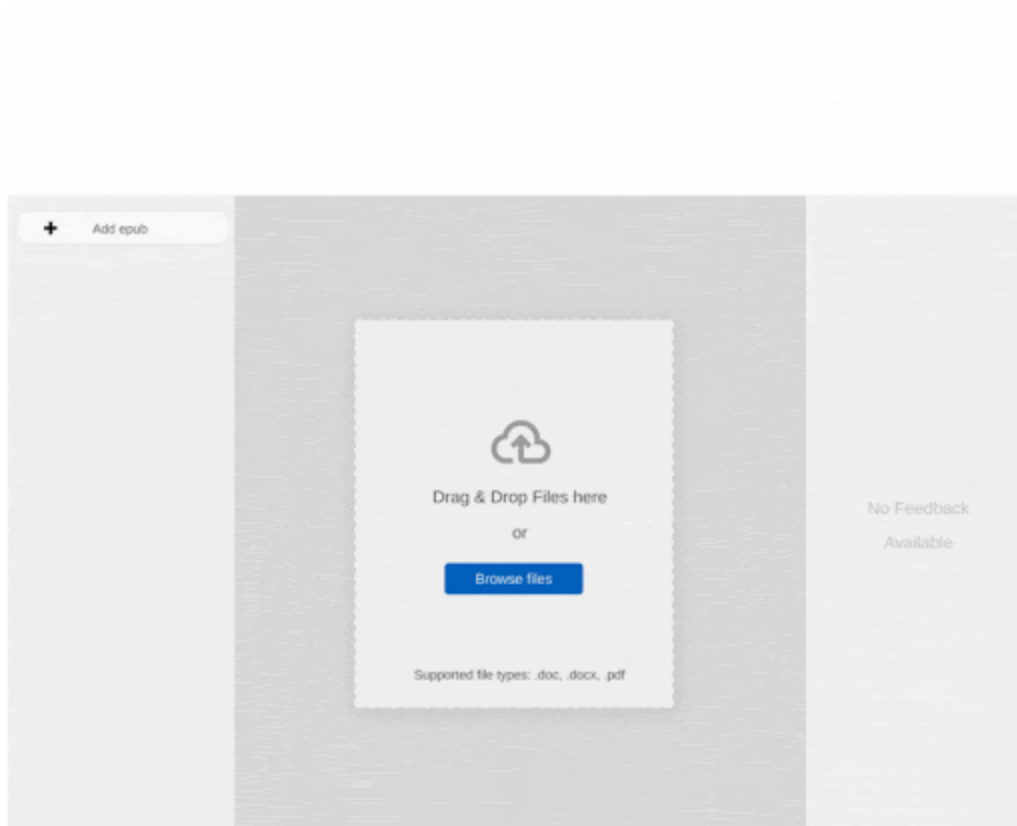
Most creators do not jump into recording an audiobook or a podcast as soon as they have a manuscript. Our research shows creatives typically annotate the manuscript before recording to help guide them through the process.

Audiobook narration involves noting down character entrances, differentiating accents/voices for different characters, pronunciation guides, and other notes that might help them while recording. This can be a time-consuming task for narrators, depending on how their manuscript is.

AI can aid in expediting this process so UGC creators can proceed with recording and editing their audiobooks. After testing concepts with end users, our recommendation is to implement an AI teaching tool for a creator's manuscripts. UGC creators will upload their text files (PDFs, ePubs, etc.) and the AI tool will take some time to process the file. Once the processing is finished, the user will get narration recommendations and curated annotations. This can include hard-to-pronounce words detected by the AI model, tone suggestions, and character switches or accents that creators have to be aware of before recording. This tool will also allow the user to annotate their notes, written or vocal, to their manuscript. They can use these resources to prepare for a recording session and build confidence in their narration.

Quality Assurance/Editing
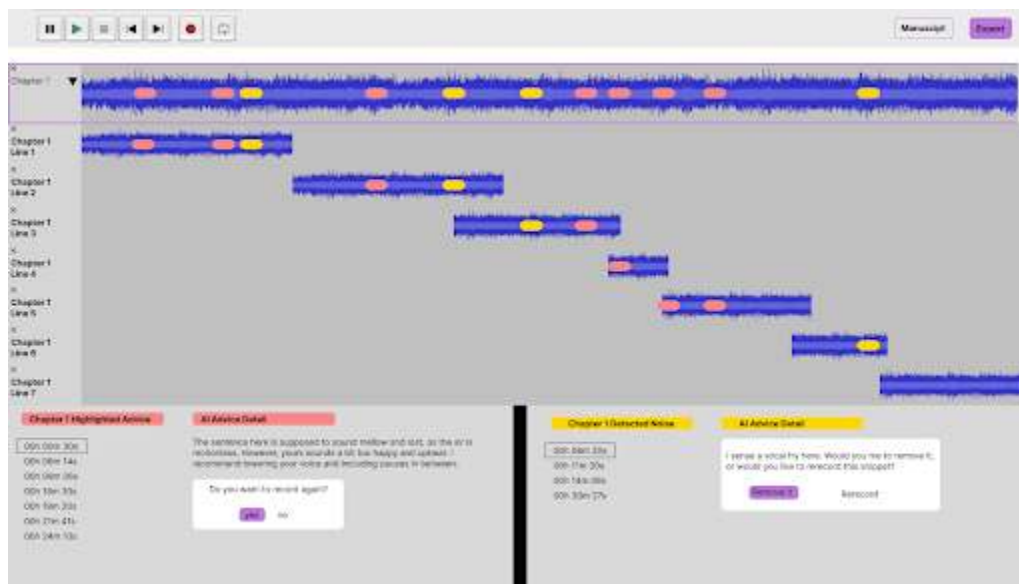
In continuation of our project's objective to provide support to User-Generated Content creators in audiobook production, the Editing and Quality Assurance aspect focuses on refining the creation process and ensuring superior content quality. After synthesizing our insights through affinity diagrams, we saw opportunities for authors to edit and process their audio. Based on our research insights and user feedback, the following tools and functionalities have been recommended:

Advanced Editing Tools:
Integrate AI-driven editing features that streamline the post-production process. Offer tools for noise reduction, audio cleanup, and seamless integration of narration segments. Authors can use AI for editing assistance no matter their skill level.

Quality Control Mechanisms:
Implement AI-powered quality checks for consistency in narration, ensuring balanced sound levels, pacing, and emotion conveyance. Provide real-time feedback during recording sessions to assist in rectifying errors or inconsistencies.

Content Review and Optimization:
Incorporate features for reviewing and revising narration segments within the platform, facilitating collaboration between creators and editors. Enable creators to analyze and refine their work, ensuring content meets industry standards and audience expectations.

Interactive Learning Resources:
Develop interactive tutorials and guidance within the platform to assist creators in editing. Offer resources for continuous improvement, including best practices and industry insights.

Automated Error Detection and Correction:
Introduce AI-driven tools for identifying common errors such as mispronunciations, pauses, or inconsistent tones, aiding creators in self-correction before finalizing the audiobook.

Enhanced Preview and Feedback Loop:

Provide an intuitive interface for creators to preview their work and collect feedback from peers or designated reviewers. Allow for seamless integration of feedback to refine and enhance the audiobook before publication.

Scalable Platform Integration:

Ensure compatibility with diverse publishing platforms, enabling creators to seamlessly upload and optimize their content for various audiobook distribution channels.

Quality Standards Adherence:

Implement features that assist creators in adhering to industry quality standards, enhancing the overall professionalism and marketability of the produced audiobooks. Create software designed to minimize unwanted background noise in real time of the narration, or the editing stage.

This suite of tools and functionalities is designed to empower UGC creators to achieve exceptional editing precision, maintain high-quality standards, and foster continuous improvement throughout the audiobook creation journey. These features aim to address the challenges identified during our research, providing a comprehensive editing and quality assurance framework for creators entering the audiobook industry.

Platform Exporting

Our goal is not only to provide UGC creators with features to streamline their workflow but also to **help them become successful** in the content they create. One way to achieve success is by exposing themselves to different platforms. We have developed a sharing feature that automatically exports audio files into the corresponding audio file formats. Through our research, we have discovered that platforms utilize different audio formats for an optimal experience on their respective platforms.
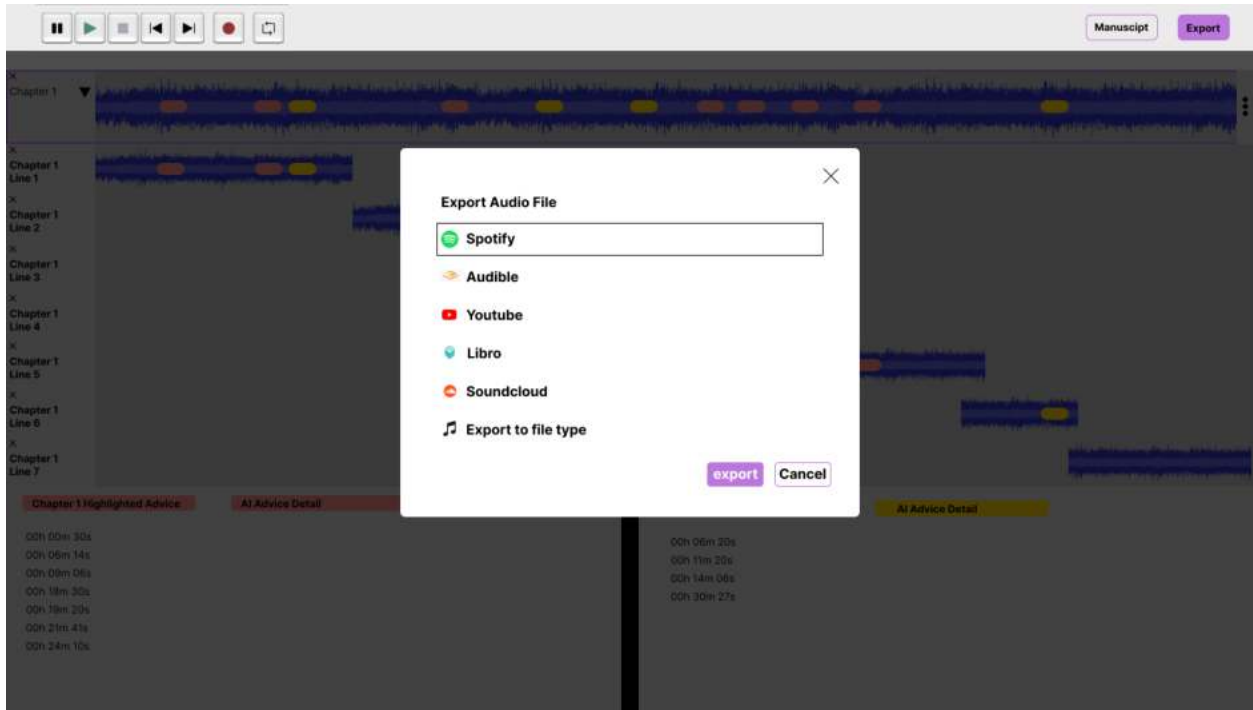
In our shared feature, we have included some common platforms. With just one click, content creators can easily and quickly export their files, thereby assisting in their workflow and reaching a broader audience.

Appendix

UGC Creators

INTERVIEW PROTOCOL

Looking into at-home creators with tools unique to their workflow

Goals
1. Explore the Audiobook and Podcast workflows for UGC Creators
   - Identify what tools or systems users wish they had for their audio creation process
2. Identify pain points in the interviewee's audiobook creation process

Brief Overview

Hello! Thank you for taking the time to do this interview! To start off, I would like to provide you with some background information about my intentions with this interview.

My design team is working on a project with our sponsor Dolby Laboratories. They have challenged us to research and design an opportunity to provide creators with tools and other resources to develop content in a way that requires minimal effort and generates delightful experiences for consumers. I would like to ask you a few questions regarding this subject to better understand the problem.

The interview should only last 30 minutes max, but we'll let you know if/when we are approaching that threshold. Is it okay to record this interview and use your name?

Questions:
Background Knowledge

- Name and Profession?
- How many years of experience do you have in audiobook production?
- Do you work on audiobooks full-time, or is it a hobby/part-time job?
- What drove you to start creating audiobook content?

Understand the workflow of UGC creators when creating audiobook experiences for a wide range of listeners

- Can you tell me about how you start a project?
    a. How do you find books to narrate?
    b. Do you need to go through any licensing process?
    c. Do you have an agent that helps you or are you a freelancer?
        i. Is there an audition process you need to go through? What does it look like?
- How does your workday usually look? (Do you have a specific timeline, just go with the flow, etc)
    a. What tools do you use on a daily basis? In what order and what for? qAre there any you are trying to learn how to use?
    b. Is the entire work process independent, or do you collaborate with other people?
    c. From beginning to end, what part of the audiobook creation process takes the longest? What do you use at the start of creating an audiobook? Is there a particular strategy you lean on?
    d. If there was something like a tool that could fill a gap that affects your workflow, what do you envision it to be?
- How involved are you in working with the quality of the audio when creating an audiobook?
    a. Do you add sound effects to your audiobooks/recordings?
    b. Have you ever used spatial audio when creating an audiobook?

Learn about potential pain points during the audiobook creation process

- Can you tell me about a time when you were creating an audiobook that you hit a wall? How did you overcome that problem?
- Reflecting on your current experience of creating content, please tell me some things you dislike.
    - In what context did these dislikes come about? Could you describe the situation you were in?
- In contrast, what do you like about creating content?
- What do you hope listeners take away or experience from your narrated audiobooks?
    - Do you have any goals in the future as an audiobook narrator?

📄 Dolby Labs UGC Interview Protocol