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# 3F: Final Report

1. **Title**

Hermes: "The news you love, on-the-go!"

2. **Introduction**

Using text-to-speech, Hermes reads aloud news articles from all of your favourite, existing news sources. When doing tasks that require your attention-- whether it be driving, exercising, or anything in between--you're not always able to look at your screen and read the news. By offering all the news you usually read through a voice interface, Hermes allows you to focus on the task at hand while reading your favourite online articles. If you're an athletic student, long commuter, or already a fans of podcasts, Hermes can help you keep informed during your normal routines!

Hi! We're, Anya, Justin, Oisin, and Ron: we're the Hermes development team.

3. **Background**

Changing technology necessitates changing how we consume news. As a team, we felt that it's getting unreasonable to keep up-to-date with news considering how many sources push out however much content to however many platforms each hour. Before any user research, our main ideas involved identifying 'fake news' and determining bias. Our first interviews talked to students about their relationship with the news and how they felt it could be improved. Initially, we found that many people voiced concerns over not having enough time to keep up with current events rather than the quality of the news they read. Students who listened to podcasts regularly were more

well-informed--but also shared similar sentiments about time constraints. Instead of trying to force people into new routines to engage with the news, we instead opted to discover what habits these well-informed students made when deciding when and how to listen to their news. These students seemed largely content with their choice of sources, so we decided that we don't need to help with curation. These students already listened to podcasts during their commutes and while exercising, so we decided to focus on improving that experience.

Podcasts can be unwieldy in how they can jump around from topic to topic and how they can vary drastically in length. Reading the news online provides a wide variety of rich content, but is hard to do while performing other tasks. The closest existing solutions to this issue are voice assistants like Siri and Cortana. Unfortunately, they're largely limited in their capabilities to navigate through news articles and topics, are limited to content specifically created to be delivered through these devices, and are not designed for use outside of the home. We took these considerations and narrowed them down into the core focus of Hermes: providing all the news articles from your favourite sources on-the-go.

4. **User Research**

Our primary users are young adults who are motivated to keep up with the news and want to be able to do so easily and on the go, and are not currently satisfied with how they get their news.

The research method we used was interviews. We found this to be the most helpful because we could ask follow up questions, and could also tell early if the participant was not applicable to our design (ex: not at all interested in the news or is already satisfied with how they consume news). Some important points that we found out are that several participants like listening to the radio as they commute because it is easy, and also that many people want to keep up with news because they feel like they are supposed to (they want to look knowledgeable in front of their friends).

These discoveries pushed us towards these main two tasks:

1. Consuming news while on the go. This lead us to coming up with a design that allows the user to listen to listen to the news rather than read it.
2. Finding articles and information about specific topics that are knowledge-level appropriate. Some participants complained about wanting

to understand specific topics (cryptocurrency, for example), but getting confused because articles are too difficult and contained other topics the participant also did not understand.
3. To be able to clarify definitions and details about certain events that come up while listening to news: this came up as a severe drawback of listening to the radio. If a driver does not know what an event is that is referenced in a story, they cannot easily look into immediately, and most likely must have to wait until later to look it up. We want to make it possible for the user to find out this type of information as they go.

5. **Prototypes and User Testing**

We struggled at first to get a working paper prototype because it is difficult to display on paper how a mainly voice-controlled design works. We ended up drawing out things you could ask Hermes and how a conversation works (see image on the
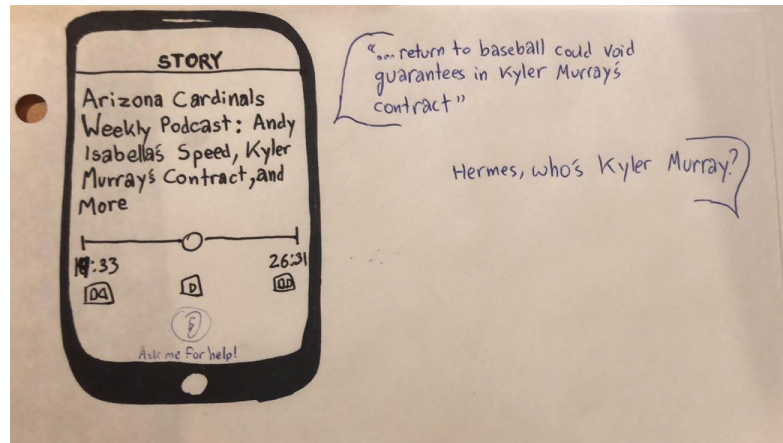


right). When doing heuristic evaluation, we discovered that having a home button would be useful to the user in terms of navigation. We also wanted to make the interface more friendly to the user. Hermes targets those who already use podcasting apps as a means of consuming media while on-the-go. Part of the reason that these apps are so prominent and user-friendly is largely due to the quality of life features that they have to allow users to control their podcasting
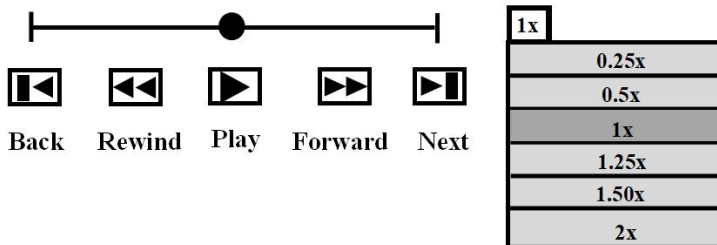


experience. Our original playback screen only had 'play', 'back', and 'next' buttons, but we now include 'rewind', 'forward', and 'playback speed' buttons that many of our correspondents mentioned they frequently used while listening to podcasts. By providing these functions and moving closer to an interface users are already familiar with, we can reduce the burden of learning a new, complicated interface and prevent frustration over a lack of features that should be considered 'standard' for audio playback. Finally, we took away the feature we had that listed out articles before reading them. One of the core tenets of Hermes is to have a voice-command analogue for all physical actions a user can take (and vice-versa). Unfortunately, this addition is a departure from this as it's not feasible to read out several article titles and reasonably expect a user to both remember and choose one that they think is interesting from the listed options. When interacting with the UI through touch, this feature is easy to implement, and was one of our biggest oversights

commented on by our correspondents. This also fell under the category of 'essential feature' for audio playback, but was made more difficult by our intention for Hermes to be primarily voice-driven.  For usability testing, we chose to interview people who fit our target group, students who don't have enough time to keep up with the news.  For one of our tests, we performed the test while the user was driving. The purpose of this test was to see how easily a user can perform tasks with Hermes while driving/slightly distracted, and to see if the vocal commands are clear enough for the user to be able to follow along without being able to consistently look at the screen. We asked the user to skip through articles, clarify definitions, and specifically try to casually use the app while driving and slightly distracted.  Another one of our tests was operated as a 'wizard-of-oz' test, with a handful of prepared articles already chosen to be read aloud during the test. Alex was prompted to perform two of the tasks used in our heuristic evaluations, with the speech bubbles on the paper prototypes hidden until he responded so as to not bias his responses.

6. **Project Retrospect**

There was a lot of valuable information we learned through user research and user testing and both were very important in creating an optimal final prototype. We conducted user testing on various students at UW who didn't get an opportunity to listen to news very often, and this allowed us to learn the reason why these students didn't take out the time. For each student, it was different, but soon we were able to take our feedback, piece it together, and ultimately discover the overarching problem. Students either simply didn't have the additional time to take out from their busy schedules, or they felt like they were too far behind to catch up in a lot of cases.

We came up with ana overarching solution to this problem (our digital news assistant) and proceeded to conduct some user testing. The user testing step is one of the most crucial steps because it affirms that what you have created actually provides the solution that our users need. Through this process we learned the importance of being open to design changes and understanding the scope of our solutions. We realized that some of our initial solutions we had

come up with were not enough to encapsulate the entire range of our target group so we needed to go broader. While we had come up with a way to listen to news on the go, we hadn't necessarily come up with a solution for the other group who felt like they were too far behind on news to catch up. Understanding this, we were able to create a solution that encapsulated the needs of all our users.

This app posed a bit of a challenge for us as our primary goal with the design was to make it a news-on-the-go assistant. On the go means that you communicate with Hermes with your voice, and that means not leaving all the decisions up to the users themselves. So one of our major constraints was being able to use the full functionality of Hermes hands-free, so completely through voice commands. This lead to features we added such as not being able to use the news app while in motion. Some other apps and car features do this, and we thought it would be a good idea as we don't want to encourage distracted driving. Another one of our constraints was the presentation of information to the user. When the user asks Hermes for news on a certain topic, Hermes only reads three options at a time as we thought more result options would prove overwhelming for the user as they might not remember all the options.

While we as a group are very pleased with how Hermes has evolved through the design process, there are always improvements to be made. We do believe that the overall functionality of the app is complete and viable so it is usable in all the various scenarios we anticipated, but we could definitely make Hermes a lot more personalized to the user. We could allow Hermes to input their favorite news topics through the tutorial so their favorite topics would show on the homescreen. Furthermore, users should be able to have a say in the source of the news they are listening to. Whether they lean more right or left, or there is a certain podcast they frequent, the user should be able to tell Hermes his preferences so the search results are more catered to what the user desires. On top of learning from given user data, we believe Hermes should also learn on the go. So if there are certain topics or news sources that the user ends up listening to, Hermes should prioritize that. Nowadays there are so many designs and applications that appeal to the mass population, so the only way to distinguish and provide a unique user experience is to personalize the content.

In its current form, Hermes should be future-proof for quite some time. As long as news articles are still being produced by some source, Hermes will be able to use text-to-speech to read them aloud. However, the next major steps for

Hermes could potentially be integration with existing voice assistants like Google Assistant or Siri. These virtual assistants already provide a large user base and already have basic functionality to display the news--integrating Hermes with these assistants would involve transitioning to a fully voice-based application, but would prevent users from having to remember how to interact with several different voice assistants for multiple platforms.

More broadly, Hermes paves the way for more text-to-speech synthesis for both accessibility and portability of all kinds of text. If Hermes shows that users are interested in listening to more content on the go, we could definitely branch out into more domains like audiobooks or even research papers that would really allow users to dive deeply into a topic of their choosing. Additionally, by getting more users interested in text-to-speech content, content producers may begin producing more narrated content analogues to their current content, consequentially also helping with accessibility issues.