Capstone Project Proposal: Short Stories Android app

Client:

Volunteers

Team member:

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Course:

CST 499: Computer Science Capstone

California State University, Monterey Bay

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Exclusive summary:

According to the Washington Post, the Americans Time Use Survey conducted by the Bureau of Labor Statistics indicated that since 2004, Americans that read for pleasure have declined by 30 percent based on about 26,000 individuals. In 2004, many Americans read an average of 23 minutes a day per person. In 2017, many Americans read an average of 17 minutes per day (Ingraham, 2018). Thus, reading have become underrated. Instead of reading books, people can listen to audiobooks. Fatma Deniz of the Gallant lab at UC Berkeley led researchers to study the neuroscience of semantic information processing. According to their study published in the Journal of Neuroscience, the researchers used functional magnetic resonance imaging ("fMRI") and scanned the brain of the individuales while reading or listening to words. The researchers determined that whether listening to audiobooks or reading a book, the brain processes the semantic information identically (Offord, 2019).

Audiobooks have been used for decades and it have been part of people's lives. For people who enjoy books, listening to audiobooks may be convenient and saves time for many people due to busy lives. Audiobooks can be listened to while driving, and listened to while doing different activities. Listening to audiobooks can assist in retaining information and improve critical listening skills. Audiobooks can help people that have problems with reading a foreign language to improve his/her understanding of the language. Audiobooks have been used in ELS classes to assist students. However, there are many audiobooks apps in the market.Those audiobooks apps are network applications that require the internet and it can be too complex for certain users to use. Those apps also require users to download the audiobooks from the internet.

For this project, the plan to build a short stories audiobook app with Android studios would be easy to use and simplistic. This android app will be an open source app and it will not be a network app. This app would allow anyone with a basic understanding of technology to use the app. This app will not have any search boxes to search for the content. This app will not require anyone to download audiobooks to the app. This app will have a main activity page that displays all the short stories. When the user clicks on one of the short stories, the user will be able to go to that short story's activity page. Then the android app would allow the user to listen to the short audio story, stop playing the short story and pause the short story. The short audio stories app will use copyright free audio stories from the Internet Archive non-profit digital library.

During the development and testing phase, the Android Studio software will be used for the implementation for the open source Android app. In the early week of the development, during the design phase, the interface for the app will be designed. In the development phase, the app will be implemented. In week 5 and 6, there will be testing and feedback collection. The testers will be given information on testing the app and a feedback survey. In week 6, the app may be improved due to the feedback from the testers. Last, the application will be implemented and documented for presentation in week 8.

Part I:

Introduction/Background:

Project name and description:

According to the Washington Post, the Americans Time Use Survey conducted by the Bureau of Labor Statistics indicated that since 2004, Americans that read for pleasure have declined by 30 percent based on about 26,000 individuals. In 2004, many Americans read an average of 23 minutes a day per person. In 2017, many Americans read an average of 17 minutes per day (Ingraham, 2018). Thus, reading has become underrated. Instead of reading books, people can listen to audiobooks. Fatma Deniz of the Gallant lab at UC Berkeley led researchers to study the neuroscience of semantic information processing. According to their study published in the Journal of Neuroscience, the researchers used functional magnetic resonance imaging ("fMRI") and scanned the brain of the individuals while reading or listening to words. The researchers determined that whether listening to audiobooks or reading a book, the brain processes the semantic information identically (Offord, 2019).

Audiobooks have been used for decades and it has been part of people's lives. For people who enjoy books, listening to audiobooks may be convenient and saves time for many people due to busy lives. Audiobooks can be listened to while driving, and listened to while doing different activities. Listening to audiobooks can assist in retaining information and improving critical listening skills. Audiobooks can help people that have problems with reading a foreign language to improve his/her understanding of the language. Audiobooks have been used in ELS classes to assist students. The name of this android application is "Short stories". This android

application would allow anyone with a basic understanding of technology to use the application. This application will benefit anyone who enjoys listening to audiobooks.

Problem and/or issue in technology:

There are many audiobook apps on the market. Those audiobook apps are network applications that require the internet and it can be too complex for certain users to use. Those apps also require users to download the audiobooks from the internet.

Solution to the problem and/or issue in technology:

For this project, I plan to build a short story audiobook app with Android studios or JavaFx that would be easy to use and simplistic. This android app will be an open source app and it will not be a network app. This app would allow anyone with a basic understanding of technology to use the app. This app will not have any search boxes to search for the content. This app will not require anyone to download audiobooks to the app. This app will have a main activity page that displays all the short stories. When the user clicks on one of the short stories, the user will be able to go to that short story's activity page. The android app then would allow the user to listen to the short audio story, stop playing the short story and pause the short story. The short audio stories app will use copyright free audio stories from the Internet Archive non-profit digital library.

Evidence that the proposed project is needed: There are a lot of audiobooks applications on the market. However, the short story audiobooks and android application I plan to do is different and easier to use.

Project Goals and Objectives:

Goals for the long-term:

- Update the app with more short audio stories
- Add more features e.g. increment volume
- Improve the UI/UX interface
- Simplify the app

Objectives:

- UI/UX design (week 1)
- Implement the main activity page (week 2)
- Implement the other activity pages with play button, pause button, and stop button (week 3)
- Testing and polishing (week 4)
- Feedback and testing (week 5)
- Improved based on Feedback (week 6)
- Documentation improvements and compile into presentation for the Capstone festival (week 7)
- Presentation for the Capstone festival (week 8)

Environmental Scan/Literature Review:

This environmental scan will depict many different audiobooks apps and its design. According to Tom's guide of "Best audiobook apps in 2020", Audible is the best audiobook application. However, there are many other audiobook applications such as Serial Box, Google Play Books, and Kobo application. Audible is integrated with Amazon's Kindle system. This application allows the user to choose a playback speed, bookmark the book, and add a sleep timer. This application has cross-device syncing which allows the user to access the audiobook

with their cell phone, tablet or computer. The users have to download the audiobook to listen offline. The Serial Box application has both a text version and an audiobook version of the book. Serial Box application sends bite-sized chunks of audiobooks to the user. The Serial Box features drama, fantasy and sci-fi audiobooks. The first episode from Serial Box is free. Google Play Books also implemented audiobook features that allows the user to listen to the audiobooks the user purchased. The audiobook features allow the user to "to skip ahead or scroll along the timeline, jump to chapters, and configure playback speed and a snooze timer" (Corpuz, 2020). Kobo is another audiobook application. Kobo offers ebooks and audiobooks. Kobo has "a timeline scrubber bar, timeskip buttons, chapter navigation, playback speed configuration and a snooze timer" (Corpuz, 2020).

Stakeholders and Community:

The stakeholders include anyone who uses this application and the contributor to the project. The stakeholders will gain a short story audiobook application that is easy to use for anyone with a basic understanding of technology. The stakeholders will also gain access to this open source project. The stakeholder will gain an application that works offline and does not need to download audiobooks. The contributor would gain experience with developing an android application that would be included in the contributor's portfolio. Also, the contributor would gain a passing or losing grade in the Capstone course.

Approach/Methodology:

In the requirements gathering and analysis phase, the contributor will gather copyright free audio stories from the Internet Archive non-profit digital library. The contributor will also design a prototype UI/UX of the application. Once the look of the application is designed. The

contributor will then start the implementation phase. The android application will be implemented using the Java programming language with the Android Studios IDE. The front end of the project will use Java graphic features instead of Java Swing and CSS, and xml. This Android application will use the built in Java sound technology for implementation as well. The android application will be debugged and tested. Once the android application is built, the testing group for this android application will involve anyone who can use an android to test the app or an android emulator to test the app with the app's Android application package file ("APK"). After the tester's feedback, the contributor may add the suggestions to improve the android application by going through the development and testing phase to finalize the android application.

Part II:

Ethical Considerations:

According to the article "Americans Read an Average of 16.8 Minutes Per Day; Spend 166.2 Minutes Watching TV" in 2017, Americans read on average 16.8 minutes a day (Jeffrey, 2018). Americans spend 166.2 minutes watching TV (Jeffrey, 2018). Thus, Reading has become underrated. People do not feel obligated to read. Some people may find reading to be inconvenient due to lack of time. Some people may be illiterate and may feel discouraged to read. Some people may have a difficult time reading a book that is in their nonnative language. According to UCB neuroscience researchers, when people listen to audiobooks, the brain would process semantic information the same way as reading (as cited in Offord, 2019). Underprivileged groups, such as the lower-class families who do not have access to the Internet and people who are technologically challenged, may be negatively impacted. This open source

app requires the Internet to download, but lower class families may not have the Internet to utilize this Android application. Additionally, people who are technologically challenged may not comprehend how to install this Android application on his or her phone or to run it on an Android online emulator. During the deployment phase, the contributor will need to get feedback both positive and negative feedback from the testers to improve this android application. This android app may be difficult to install for people that have a basic understanding of technology. The contributor will need to include blog posts, and articles on directions to install and utilize the Android application. In the future, the contributor would need to update and maintain the application. This Android application is an open source application that will be hosted on the contributor's Github. Any users should be able to access the apk for the application to download onto their android devices and to use this an Android application on any Android online emulator. The android application will be available to use without the Internet. This process will discard negative incidents.

Legal Considerations:

The android application will use royalty free images from online which is fully legal. The android application will also use audiobooks from the Internet Archive website. The short audio stories that will be used for the android application from the Internet Archive website will be only audio books with expired copyrights. This android application will not need any permission to download and use because it is an open source application.

Part III of Final Proposal

Timeline/Budget:

2020 MAY MONDAY

CALENDAR YEAR CALENDAR MONTH FIRST DAY OF WEEK

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
27	28	29 Week 1: Start class work	30 Researched Adobe XD	01 Start designing the look for the app	02 Design the look for the app	03 Design the look for the app
04 Finish class work	05	06 Week 2: Start class work	07 Implementation of the activity pages and start collection royaty free photos to use for the app	08 Implementation of the activity page	09 Implementation of the activity page	10 Implementation of the activity page
11 Implementation of the activity page	12 Implementation of the activity page	13 Week 3: Start class work	14 Implementation of each of the audiobooks and gather copyright free audiobooks	15 Implementation of each of the audiobooks and gather copyright free audiobooks	16 Implementation of each of the audiobooks and gather copyright free audiobooks	17 Implementation of each of the audiobooks and gather copyright free audiobooks
18 Implementation of each of the audiobooks and gather copyright free audiobooks	19 Implementation of each of the audiobooks and gather copyright free audiobooks	20 Week 4: start class work	21 Implementation of each of the audiobooks and gather copyright free audiobooks	22 Implementation of each of the audiobooks and gather copyright free audiobooks	23 Implementation of each of the audiobooks and gather copyright free audiobooks	24 Implementation of each of the audiobooks and gather copyright free audiobooks
25 Implementation of each of the audiobooks and gather copyright free audiobooks	26 Implementation of each of the audiobooks and gather copyright free	27 week 5: start class work	28 testing apps and get feedback	29 testing apps and get feedback	30 testing apps and get feedback	31 testing apps and get feedback
01 testing apps and get feedback	02 testing apps and get feedback	03 Week 6: start class	04 documentation and improve app if needed based on feedback	05 documentation and improve app if needed based on feedback	06 documentation and improve app if needed based on feedback	07 documentation and improve app if needed based on feedback

2020 JUNE MONDAY

CALENDAR YEAR CALENDAR MONTH FIRST DAY OF WEEK

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
01 documentation and improve app if needed based on feedback	02 documentation and improve app if needed based on feedback	03 Week 7: Start class work	04 finalize app and finish documentation and video	05 finalize app and finish documentation and video	06 finalize app and finish documentation and video	07 finalize app and finish documentation and video
finalize app and finish documentation and video	finalize app and finish documentation and video.	week 8: Capstone presentation				

Resources Needed:

During the development and testing phase, the only software resource that is needed is the Android Studio software for implementation for the Android app. Each phase of creating this app will have milestones. In the design phase, the first milestone is to finish the look for the app for the main page and the activity page. In the development phase, the milestone is to finish the implementation of the app. In week 5 and 6, there will be testing and feedback collection. The testers will be given information on how to run the android app on an android online emulation if

needed to test the app. In week 6, the app may be improved based on feedback from the testers. Last, a finished implementation of the app will be the final milestone. The budget for this project is free. The software and the copyright free images and audiobooks do not cost anything.

Risks and Dependencies:

For this project, I plan to build a short story audiobook app with Android Studios.The only risk that can affect the completion of the project is the time frame. There may be not as many audiobooks added to this app due to the time frame. However, this app will be updated in the long term to add more audiobooks. However, this app will be able to be completed during this time frame because it will not use hard to implement and unnecessary implementations. Thus, there are no dependencies.

Final Deliverables:

The deliverables for this project are a short story audiobook open source app with Android studios that will be easy to use and simplistic. This app will be a non-network app. This app should allow anyone with a basic understanding of technology to use it. This app will have an easy to use main activity page that displays all the short stories that the user can select and listen to. When the user clicks on one of the short stories, the app will bring the user to the story's activity page. Then the user should be able to listen to the short audio story, stop playing the short story, and pause the short story.

Usability Testing/Evaluation :

The testers will be given information on directions to install and utilize the Android application. The testers would need to use an android emulator to run the Android application package file ("APK"). The testers may also use an android device to test the app by installing the

APK package. The testers will be asked to complete a survey for feedback, which can be found in Appendix A.

Role and responsibilities:

Shelly Sun (solo project)	Design the app Implementation of the app Documentation for the app Video presentation for the app

References

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Appendix

Appendix A

Usability Evaluation Test Plan form for the testers

Name:

Contact Details:

Feedback Due Date:

Product:

Test Objectives: The test will identify programming runtime errors, usability problems, and feedback on the app.

Test Tasks: Go though the app's main activity and the short stories pages and check for functionality.

Location:

Feedback Survey

1. Was the interface intuitive and easy to use?

2. Was the interface a good visual experience?

3. Did you encounter any problems using the application?

4. How was your overall experience using these applications?

5. Are there any functions that you think this application needs to add?

6. Are there any design changes that you think are needed for this application?