

Apt to Learn



Final Report

Word Count: 1993

Penalty: 0

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1- Introduction – What and Why

Apt to Learn is an app that brings technology to the theatre experience in order to educate playgoers.

This app grew out of a problem. Stage plays begin with a pre-show request to “please turn off your cell phones.” Compliance levels have never been good, and even the Royal Shakespeare Company—the pre-eminent theatre company in the world—reports that their shows have been interrupted by phone noises. And this is with a theatrical audience that skews rather older than the general population. Many young adults have never seen live theatre. Theatres fear the dying off of their audience, and they want to attract younger customers, but they won’t do so by banning technology.

Our team came up with a solution that serves both playgoers and theatres. You don’t have to turn off your phone—rather, you can use it to enhance your experience. Users “bookmark” moments that are happening right in front of them, and save those moments to their phones so they can learn more about them later.

The way the app works is that a dress rehearsal or a preview performance is videotaped. This tape is housed on the playhouse server. During pre-show announcements, the house manager tells patrons to join the play on their app. Thus, our app involves a little theatrical sleight-of-hand. Users think that they are synced up to the live action happening before them, but what they are really synced up to is a videotape of a previous performance that is running unseen on the playhouse server. This is, of course, what allows moments of “real life” to be time-stamped. No matter if a user misses this announcement and joins the play on their app when the

actual play is well underway—the app can push a message to the phone noting the elapsed time, and sync the user’s phone with the video playback.

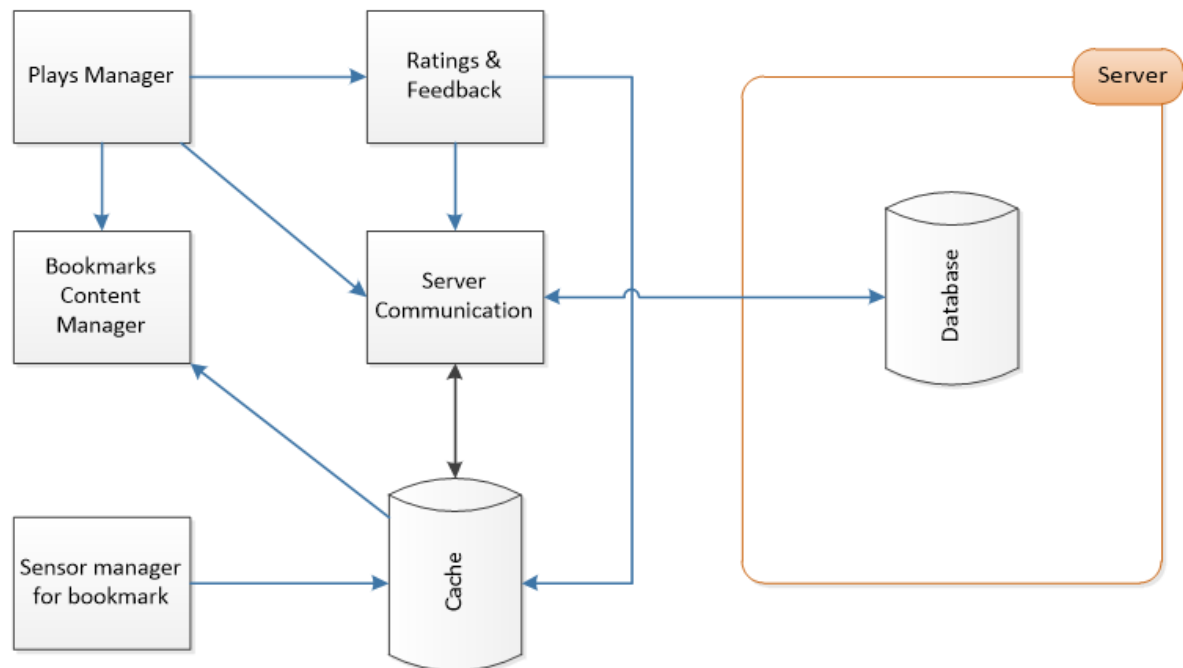
When a moment occurs that users want to know more about, they simply double-tap their phones to create a bookmark, which places a time stamp on the video. After the play, they review their bookmarks, and for each moment, they see a menu offering them links to the full text, to scholarly articles, to analysis of a particular speech, or to any number of options a theatre might deem useful or educational.

The theatre will have placed time stamps of their own at pre-determined intervals—perhaps every scene, or every five minutes. Thus, material that changes through the course of the play—such as “read an analysis of **this speech**” or “read a plot summary of **this scene**”—is grouped into time-stamp “buckets” along with material that remains static (“read a plot summary of the whole play”). Users’ bookmarks will take them to the nearest “bucket.” They can also drag along the play’s timeline (shown in screenshots) to find out more about other moments they missed.

Users’ bookmarks are saved to the theatre’s database so that the theatre can learn which moments were bookmarked the most. That may show them moments that need to be clarified for future productions. Finally, before closing the app solicits feedback from playgoers, in which theatres can ask questions about the staging or the understandability of the play, and patrons can share reviews of the play on social media.

2- Overall design

The following diagram outlines our software block diagram. Each block is briefly described below:



Plays Manager:

- Synchronize upcoming and current plays from our server database. Users are able to join current plays.

Sensor Manager:

- Once play starts, phone is set to silent and listen to touch screen events
- Detect double tap as bookmark

Bookmarks Manager:

- Relates user bookmarks to ones for play.
- UI interface for reviewing the bookmarks

Ratings & Feedback

- Survey for users to provide theaters with feedback

Server

- Database to sync all user bookmarks and feedback for theaters and researchers to analyze

3- Statement of Functionality

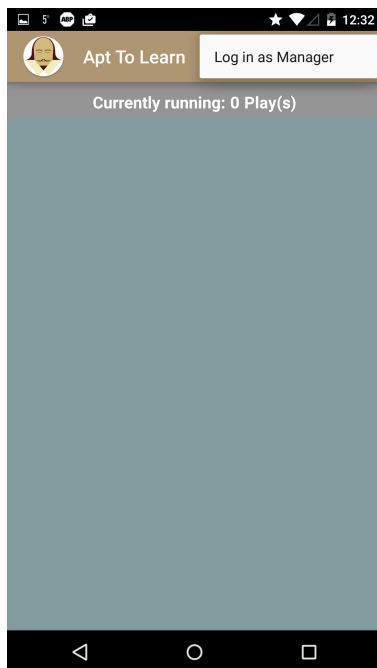


Figure 1

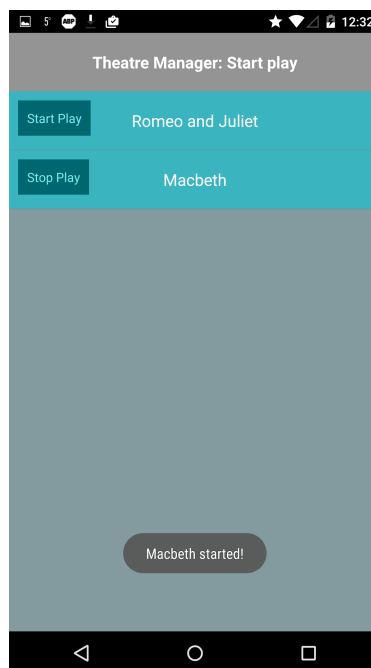


Figure 2

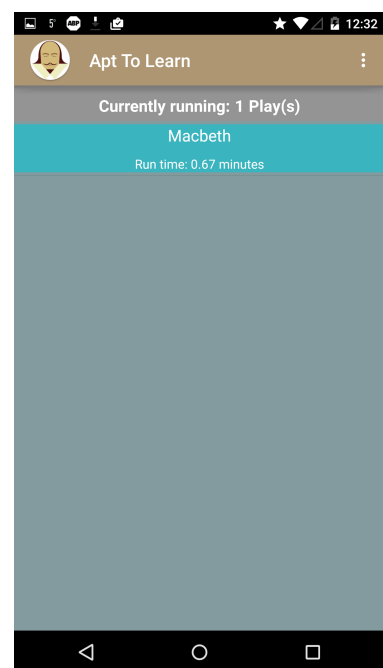


Figure 3

We login as a theater manager to start a play. From the home screen, the user can join the live play then as shown in figure 1, 2 and 3.

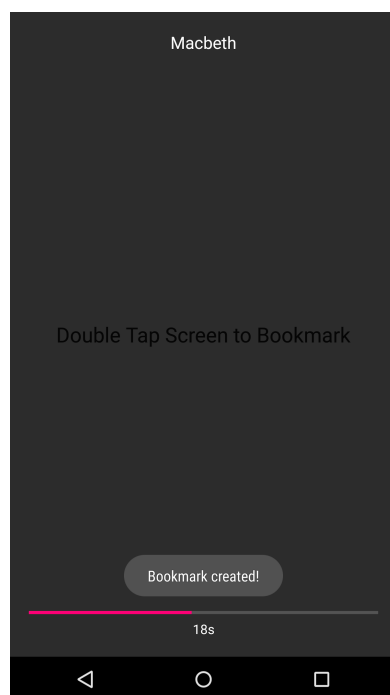


Figure 4

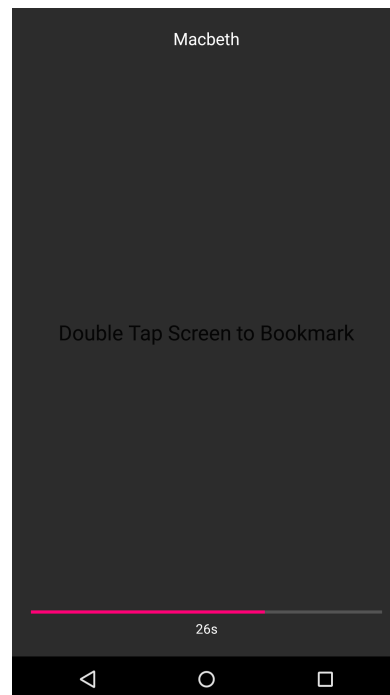


Figure 5

Once the user joins the play, the phone is set to silent, and the screen is set to dark. Also, the user is able to double tap the screen at any moment to register a bookmark as shown in figure 4 and 5.

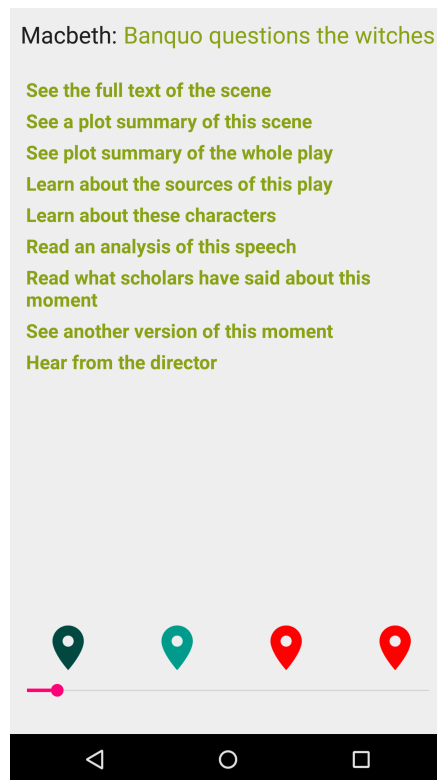


Figure 6

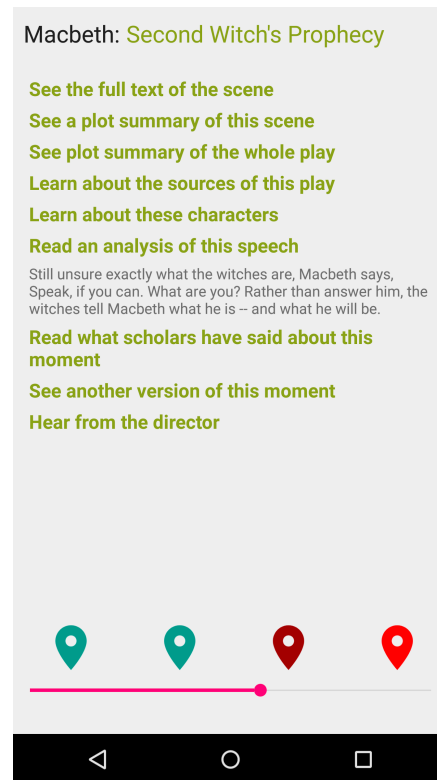


Figure 7

As shown in figure 6 and 7, the user is taken to bookmark review screen after the play, which shows the user bookmarks as well as detailed information about the scenes. The user can toggle each bookmark by clicking or sliding the seek bar. The red bookmark icons are the ones that user has set, while the green ones are the rest of the bookmarks that user didn't set, but still can be reviewed. He can then browse through the content of each of the scenes, and even click on the hyperlinks from the content to videos or external web content.

Apt To Learn

Help us serve you better by answering the following short survey :)

Easy to understand the language?

★ ★ ★ ☆ ☆

Did the bookmarks help you understand the play better?

★ ★ ★ ★ ★

What did you think of the play's setting/time period?

☐ I like Shakespeare plays set in different setting/time

☐ I want Shakespeare plays to always be set in Elizabethan setting/time

☒ I didnt understand why the director chose this particular setting/time

☐ I couldnt really tell what the setting/time period was supposed to be

Would you use this app again?

☒ Yes

☐ Maybe

☐ No

Figure 8

Apt To Learn

play better?

★ ★ ★ ★ ★

What did you think of the play's setting/time period?

☐ I like Shakespeare plays set in different setting/time

☐ I want Shakespeare plays to always be set in Elizabethan setting/time

☒ I didnt understand why the director chose this particular setting/time

☐ I couldnt really tell what the setting/time period was supposed to be

Would you use this app again?

☒ Yes

☐ Maybe

☐ No

Comments: 53 / 256

It was great. I liked the app. I will recommend it to my friends.

SUBMIT

Thank you for completing the survey!

Figure 9

Once the user is finished reviewing the bookmarks and contents, the app takes them to a survey screen, where they could provide a general feedback about the play as shown in figure 8 and 9. The feedbacks are collected in the database for future improvement and enhancement.

4- What did you learn – what would you do differently?

Arlynda – I learned a great deal about how to think about apps in terms of what they can do and what phones are capable of. I learned a little bit about what programmers need from non-computer people, and how to communicate effectively what both sides needed. If I could do anything differently, it would be only to not show the theatre's own timestamps on the final timeline. Theatre operates on magic—showing users that there are pre-set bookmarks to which they are being directed pulls back the curtain on a little of the app's magic. I don't want users to know how it is possible that they are bookmarking real life. I want them to simply marvel that they are.

Abderahmane - I learned through this that we must dedicate a lot more time at the initial steps of the project to iron out lots of the details. I would have gotten our group to meet and start on the project much earlier. It took us some time to get the ball rolling and ideas flowing. Lot of ideas were not fully defined so we had a lot of things that we were not sure how and if they were to be done. Had we given it more time to sitting down and really ironing out the details, i think it would have led to a much more complete project.

Zohaib - Technology wise, I was very much aware of all the resources used in this project prior to the start, like Google app engine server, developing Android application, designing, etc. I think one important thing I learned out of it was how to pick a novel idea, and convert it to a working prototype, which was quite satisfying. Technology wise, I wouldn't do anything differently. Infact, this app can even be

converted to a production quality product with as little as one month of work. In this project, our idea was in process of refining until quite late, which could have been hashed out a bit earlier, which might have given us more time to work on the UI beautification.

5- Contribution by Group Members

Arlynda – I made sure that the interface was one that would be acceptable to theatres. I also selected and gathered all the Shakespeare-related material, from the clip we watched to the options available on the user menu for every bookmark. All of the educational material I put into an Excel spreadsheet broken into “buckets” by the time stamps we added to our chosen clip from *Macbeth*. This ensured that each dynamic option—such as the speech analysis—was synced to the right moment in the clip. That spreadsheet became the core of our database.

Abderahmane

- Sensor manager : turn phone to silent and touchscreen listener to record double taps for user bookmarks
- Bookmark review : UI for reviewing bookmarks with seekbar and icons on timescale to indicate user and missed bookmarks.
- Survey & Feedback : UI for survey and recording the user input

Zohaib

- Datastore : Implemented the datastore on google app engine server; designed the schema for the db.
- Play Manager: Synchronize the play time among users and theatre manager.
- Server Communication: Implemented Google Endpoint listener at GAE side to listen on users' and theatre manager's request.
- Bookmark Review : Input bookmark content for it to be displayed and used as expandable list items.
- UI for play manager and main screen

6- Specialist Context (358 words)

I spent six years working for a Shakespeare theatre with an educational mission. We had ongoing frustrations with getting patrons to turn off their phones, and have never even attempted to directly connect the educational part of our work with current productions. Rather, our educational material approached Shakespeare as a high-school teacher or college professor might—we explain poetic metre, rhetoric, how to get students on their feet to act out parts of the plays, and how performance in general might help students interpret the play.

I explained the idea behind this app to the Director of Education at this theatre. She absolutely loved the idea that the app blacked out phone screens and set the phones to silent while the app was running, as that is the godsend feature theatres are looking for.

The influence on my field that this app has is that *every* theatre can become a theatre with an educational mission, Shakespeare or not. Moreover, the app's options can be tailored closely to every production. To take an example that is breaking records and making worldwide headlines, the producers of *Hamilton* could include links to buy the *Hamilton* soundtrack. They could give playgoers historical information on the Hamilton/Burr duel, and also a history of theatre led by actors of colour. They could talk about rap and hip-hop music, and lyricist/star Lin-Manuel Miranda could record a video or write a short essay on creating songs about history in those usually ahistorical genres.

I really believe that this could be the app that makes theatre welcoming for young audiences. In addition, the videotaping of every production at least once (something that not all theatres currently do), and the saving of user bookmarks to

the theatre's database, builds an archive which could be of great use to scholars when they study Shakespeare in production. Shakespeare in production is the focus of my work, as my dissertation is specifically on how actors annotate their Shakespeare scripts, and I will be spending most of my research time in theatre archives. I already know I will not find videotapes of every production—this app will help ensure that future researchers will.

7- Future Work

How could the app be augmented to make it better? – Suggest additional features and capabilities

This app could be easily adapted to movies. Official movie websites exist, but are woefully underutilized, and movie studios appear not to have attempted any kind of app/web/film integration. Instead of educational material, the app would offer videos taken behind the scenes, blooper reels, brief interviews with the stars or with the director, and other marketing options, like having the DVD in your pocket so you can see the extras immediately after the movie.

The app could sync with a more discreet wearable such as a smart watch or band to signal bookmarks. It will also be ideal to have an API that allows different theaters to specify their bookmark content and layout so that the app becomes extendable.

8- OK to post to web?

Video: Yes

Report: Yes

Source code: No