

mediaa—Saiph

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Mediaa attempts to give power to the user by making streaming your own media server streamlined and flexible. We will revise our initial design concepts using the feedback that we gathered from peers in order to create better prototypes that build off of what we have already created.

KEYWORDS

app; software; media; streaming; server

Introduction

The development of new technological devices available to consumers such as smartphones, smart tvs, and computers can result in media and music files being spread out between various different platforms. Managing and having access to the same content between all these devices can be hard. Users who have media files on one device might not be able to access them on another device. When the user does not have physical access to the device with the media files, there is no opportunity to view them on another device.

Individuals might ask themselves:

- How can I save these files?
- How can I share these files with myself on other devices or with friends and family?
- Is there a way to manage my large collections of media and music files?
- Is there a quick and easy way to access my media files from anywhere?

This website/application focuses on allowing users to track, manage, and share their media files with other individuals and devices. By consolidating media files from various devices, users can watch and listen to these files from any device and from any location with internet access. Users can freely access media files they own without having to worry which device they are on.

Problem Summary

Our research aims to gauge how users may interact with a self-hosted streaming service and their interests with such a service. Currently, there aren't many great, easy to use solutions for local file sharing. Some of the main issues our interviewees face using media server application like Plex and Kodi are:

1. lengthy setup time
2. complex interfaces
3. poor management control

To help the user enjoy our application, we design our concept layout to have a satisfying user-friendly environment. The number one reason users choose to hide away from using some applications is that they are too complicated to use and hard to understand. So how do we go about trying to achieve the opposite of that experience? To not cause frustration to users who will be using this application, we try to design our application with a straightforward interface. These interfaces are designed with popular icons to achieve boots learnability and Recognition rather than recall. Our application also proposes a most uncomplicated and easy way to manage media

libraries when it comes to management. To accomplish this, we design our application to either add media locally on their device or using the application itself. Without good quality management, a media server can lead to an experience that is not optimal and often frustrating.

The purpose of this application is to provide user capabilities to manage their media and consume it within a single interface. This paper will introduce three concepts that will attempt to address management issues and usability issues when it comes to using a media server. We will also present a storyboard of one of our concepts that we believe addresses the problem above in the most appealing way.

Interface Concepts

Our group created and showcased three different concepts for ways to use our application. Each concept was different in the intention of usage of the application but also each concept showed a slightly different way of using and seeing our application. Each concept focuses on making the actions of the user efficient but also effective. The user needs to be able to use our software easily but effectively so that they can move on to viewing their media, all of their media, quickly.

The first concept shows how the user will add a media library to their media server by adding information and a location of a folder on their device that holds the media. The second concept shows how the user would select a movie to watch from their collection and the watching of that movie in the app. The third concept shows how a user would manage and view a specific piece of media in their library including viewing the metadata.

Concept #1

This concept shows how a user would add a media library to the media server by adding the location and information through the manage library page. The concept starts with the user being on the homepage of the software. The homepage displays many quick options for the user to get to their media and includes a button for managing their libraries right at the top of the application.

When the user clicks this manage library button they are brought to the manage library page which displays all of their libraries on one page. These libraries are displayed in a list with a scroll bar so that the user can look through each of their libraries. Each library entry contains a name, a location of their harddrive, and the media types that will be selected from the location. Having each library element selected and containing these pieces of information allows the user to more easily manage each individual library by managing media at the operating system's file explorer level while also giving them the option to manage it in our software. At the top right of the manage libraries page we give the option to add or remove a library with the "+" or "-" button respectively.

Assuming the user hits the "+" button they will be intending to add a library to their libraries. This button press will take the user to a new page in the app where they are prompted for information regarding the new library. The user has toggle buttons at the top of the prompt for the user to decide what media will be included in the library. They can choose to only toggle one button, or toggle many buttons. After the toggle buttons the user has three text input boxes. The first is the "Name" box where the user will enter the name of the library. The second is a "Type" box which will only display if the user clicked the "Others" media toggle button. The third is the location where a user can enter the exact path to the folder which will serve as the library or they may hit the three ellipsis button which will open up their operating system's file dialog where they can select a folder for the media library. Clicking the create button at the bottom of the page will create the library for the user.

Concept #2

Assumptions made about the user experience with mediaa before user gets to screens in Concept #2 is as follows:

- First, the user will have needed to create a mediaa account and have it linked to the software they have downloaded.
- Second, the user must have their server set up so that all of their movie files have been indexed by the software.
- Finally, the user is assumed to have stopped watching/paused a movie halfway through in a previous session of using this software.

Upon logging into the software, the user will be greeted by six “bubbles”. Each of these “bubbles” will take the user to a different part of the software. A movie bubble links to movies, music links to music, pictures link to pictures, and documents link to documents, as well as a user account bubble and a settings bubble.

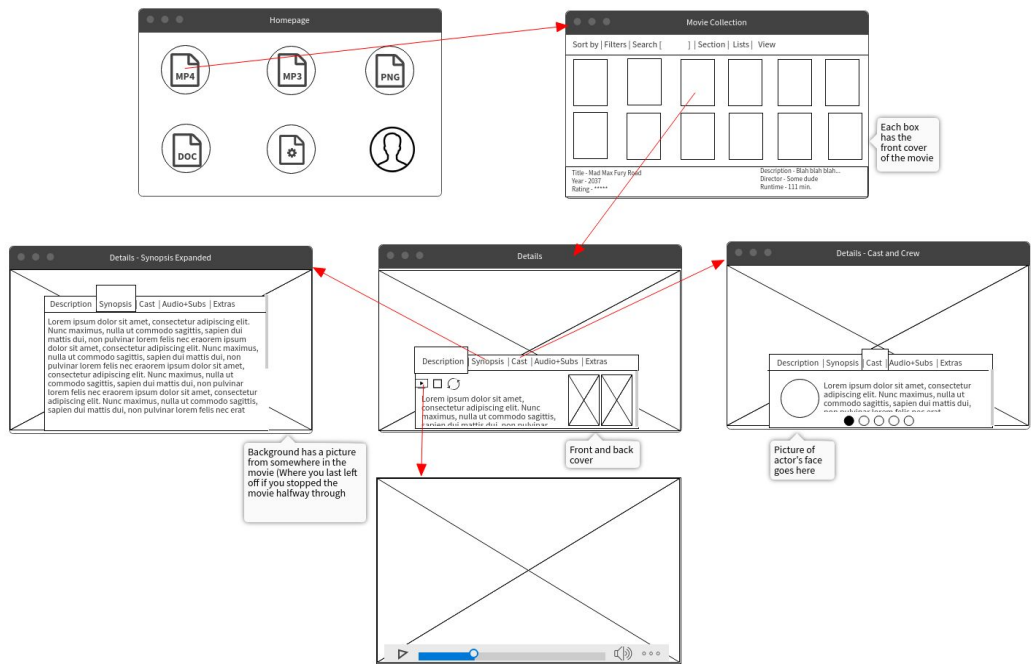
We imagine that the user clicks on the movie bubble. They will then be taken to a gallery of all of the movies in their collection. The collection is by default sorted alphabetically and can be navigated by scrolling. The collection scrolls horizontally from left to right. The user can change how the movies are displayed by clicking the “sort by” button, which will list a drop down of various ways to sort the collection. The user can also add filters such as only listing movies with a rating of 3 or higher, and search for movies by simply typing on their keyboard. When the user hovers over a cover/movie, that movie's basic information will be displayed at the bottom of the screen. Once a user finds a movie they want to watch, they can click on the cover and will be taken to the details screen.

It is on this screen where they are presented with detailed information about the movie, along with the ability to actually start playback of the film. By default, they are taken to the “details” page, which lists the same details that were displayed at the bottom of the screen, but with the addition of playback options. They can then either choose to play the movie, or navigate to the other tabs, which include synopsis, cast, audio and sub settings, and extras.

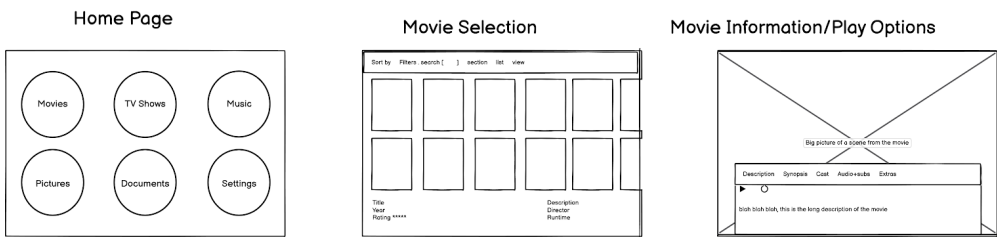
Let's say the user wants to view information about the cast and crew. They would click on the cast/crew tab which will change the box to display the cast in billing order. They can use the arrow keys to navigate between cast members, or use the scroll wheel while hovering over the horizontal selection bar. The software will use the IMDB API to then fetch information about the actor/actress and display it for the user. When the user is done looking at the cast/crew, they can navigate back to the details page where they can play the movie.

Playing the movie can be done by pressing play (resume if the user hasn't finished the movie), or restart to begin playback. The player will display the timeline and play/pause button if the mouse is moved. Right-clicking anywhere on the screen will open up more advanced options such as audio formatting and chapter selection.

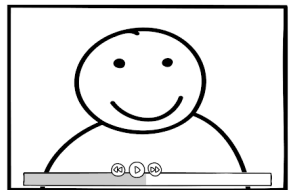
Extended Concept:



Initial Concept:



User can now watch movie



Concept #3

This concept highlights some very important fundamental functionalities that a media server must provide. The prototype screens, illustrated below, show how a user can navigate through our application, starting from their login to viewing a specific piece of media within their library.

Our user's story begins with their initial login to their Mediaa application. Upon opening the application they are greeted with a login screen. This screen provides input boxes that allow the user to provide their username and password. The user may also create a new account with the "Create An Account" button or request a password change by using the "Forgot Password" button. Once the "Sign In" button is used, the user's credentials are validated and if they are legitimate, the user will be passed to the homepage.

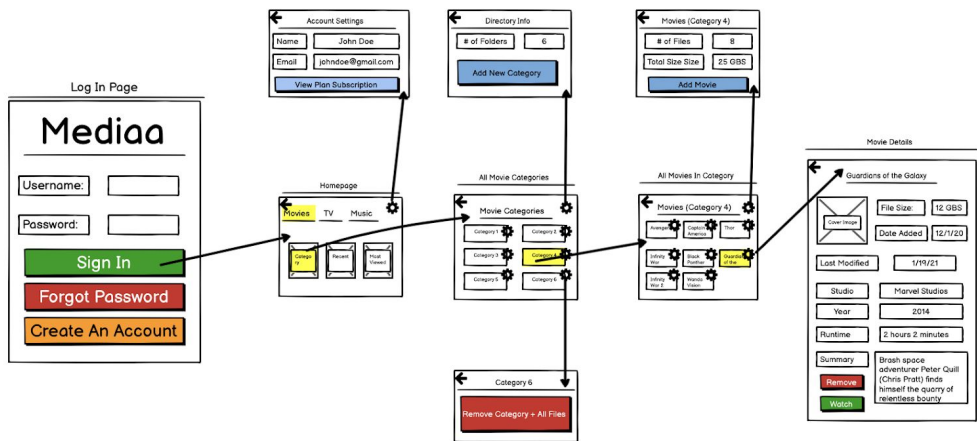
The homepage allows the user to navigate their library, by sorting through their movies, TV and music. For each media type the application displays links to categories of that media, recently viewed media and most viewed media. The user can also look into their account settings using the settings icon in the upper right. The homepage is designed to be minimalistic and intuitive, making it easy to use.

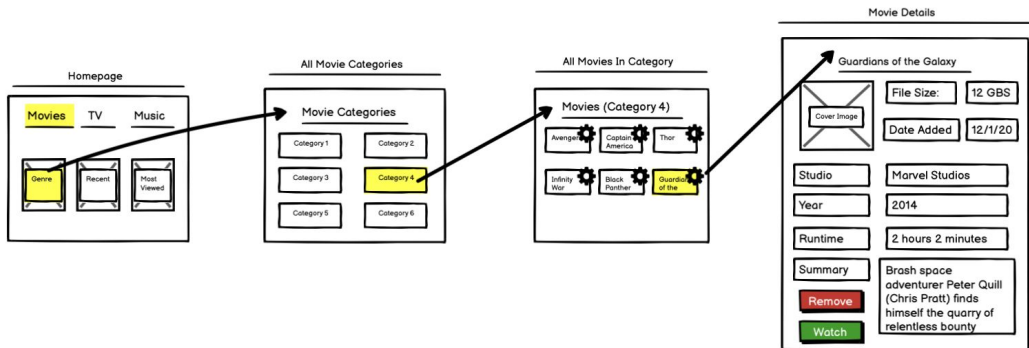
From the the homepage our user continues by pressing on the movie categories button on the homepage. This leads them to a new screen showing all the movie categories in their media server. From here the user can gain access to a specific category and also see metadata about their categories directory by using the settings icon in the upper right. In the settings screen users are shown the number of folders contained in the directory and can add a new folder when needed. The categories screen also allows our users to delete categories by utilizing the settings icon on the individual categories.

Once a category has been selected the user now has access to the individual files in their media server. The user has the ability to add new movies to their server by going to the settings icon in the top right corner. Here they can see some metadata about this specific category, such as the number of files and the total size of the directory.

Finally our user selects a specific file to view it's metadata and to consume the media. The movie details screen illustrates this functionality – showing the movie's file size, the date it was added to the server, the cover image, the date of last modification, and the movie's production studio, release date, runtime and summary. The user has the ability to access the media and watch the movie using the green watch button or they can delete the media from their server using the red delete button.

Extended version of concept #3:



Initial version of concept #3:**Concept Discussion and Justification****Concept #1: Discussion and Justification**

- The aim behind designing these screens is to present good usability and clarity. To achieve this, we create each screen to promote recognition rather than recall. We design the dashboard to give users the intuition that they already know how to interact with the application using an action button with popular media icons engraving. We also decided to place a button at the top of the dashboard screen to take users to the "Manage Library" screen because we don't want to cause users to be frustrated in figuring out how to manage their libraries.
- The "Manage library" screen was designed to aesthetic and minimalist design. We try to keep visual design and content very simple, focusing on the essentials needed to manage a library. In managing libraries, users must be able to accomplish three things: create, delete and edit a library. To help the user quickly understand how to achieve these three critical tasks, insert two buttons on the right side of the screen, one with a "minus sign" and "Plus sign" engraved on them. We believe that as soon as users see these buttons right away, they would have an intuition that the minus button is to remove a library and the plus button used to add a library. On the left-hand side of the screen, we also have a button, one to navigate back to the home screen and the other to refresh the table below with the list of created libraries in case the newly added library does show up in the table. This application will also be designed with tooltips to help inform users to understand each feature's functionality.
- The other screens for the add and remove library features were also designed with the same intention as the "Dashboard" screen and "Manage Library" screen to present recognition rather than recall, to give user control and freedom, error prevention, and to create Aesthetic and minimalist design. These heuristics were applied using popular icon buttons used on many media platforms, and focusing on the essentials with no unnecessary elements distract users from the information they need.

Concept #2: Discussion and Justification

- The main goal with this design was to make it both aesthetically pleasing and usable, using the interviews as reference for what could be improved upon.
- To start, the home page was made extremely simple, with only a few buttons that would take you to different parts of the software. The goal was to make it as fast and easily recognizable as possible to get to the type of media you want as soon as you power on

the software. No going through lots of menus or convoluted set up, you can get straight to the media.

- For the movie selection screen, I wanted to emulate the physical correlation to movie selection, that being having a shelf of movies and picking them from their cover. This allows for movies to be easily recognizable and quickly navigated to be able to find the movie a user might want to watch very quickly. Being able to only have information about that movie show up when you hover over the cover also saves space and doesn't overload the user with a ton of information.
- Once a movie was selected, I needed to make sure that the user had a bit of a buffer before the movie actually started playing. That way they could have a screen with a lot more information and options that they could adjust before starting playback. Since there is only so much information that needs to be displayed at once, I shrunk down the box to be only about half the screen, allowing the background to be a still from the movie they are about to watch. This further reinforces the movie recognition and can help jog memory as to where they left off.
- Playback would just be a standard playback screen. There is no need to reinvent the wheel here, as users are expecting something familiar and recognizable. One key inclusion, however, is the ability to right click anywhere on the screen to get a drop down of more options. This declutters the rest of the screen from unnecessary settings, and makes the more advanced settings something that can only be accessed with a conscious choice, not just moving the mouse.

Concept #3: Discussion and Justification

- The main decisions behind these design additions were based on usability and accessibility. The goal was to make the interface and features as familiar and easy to understand as possible. To accomplish this, we limited the number of interactions possible on each page to the bare minimum. Additionally, interactions are broken up into several pages/panels with labels which help direct the user on how to use the application. New users would be comfortable interacting with this application.
- In the interviews we conducted with other students, the interviewees prioritized ease of use and start-up time. They wanted interactions with the application to be simple and quick as possible. Additional options, features, and settings should be kept in the background while the main features should be displayed first. With this in mind, the options for adding, removing, and editing media are reduced to familiar icons and buttons. Buttons that result in an interaction are color-coded which will help the user understand what the corresponding action does.
 - Red: This is often related to remove and delete. Users would be more careful when deciding to click on buttons with this color.
 - Green: This is often related to adding or opening something.
- Continuing on our aim of usability and ease of access, the homepage is split up into three distinct options: genre, recent, and most viewed. This approach allows users to quickly interact with the media in their last session. Users can sort by their favorite or most viewed media. Users can also sort by categories which will help with searching for media content they want to add, view, or manage. The layout of the movie details page allows users to view the metadata of content in a clear and concise way.

Conclusion

Currently, there exists a void in the market for well-built, user friendly media server applications. Through our research we found that existing platforms are difficult to set up, lack fundamental functionalities and provide poor user experiences. The goal of the Saiph team is to design and implement an intuitive interface with robust functionality, with usability being a primary focus. By orienting our design to fit the needs and desires of our users, we have been able to

create prototypes that reflect good user experience. The prototypes illustrated in this report exemplify our team's efforts and show our clean and intuitive design.

Peer Evaluation

Member Name	Role	Responsibilities & Assigned Tasks	Tasks Completeness Grade
Cameron McCawley	Leadership/Management	Concept #2 (in full)	5
Benjamin Mayinger	Writing/Deliverables	Concept #3, Conclusion, Proofreading	5
Danmar Green	User Research and Communication	Concept #1, Problem summary	5
Joshua Shequin	User Research and Communication	Concept #1, Interface concepts	5
Anthony Trinh	Visual Design/UX Design	Concept #3 prototypes + Justification, Introduction	5