BackBlog Specification Document

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Contents

Chapter 1

Introduction

1.1 Purpose

BackBlog is an app for social playlists, designed to enable the creation and sharing of collaborative movie and show playlists. Users can invite friends to participate in adding movies and shows to a shared playlist. This allows groups to easily keep track of movies and shows they are eager to watch together.

1.2 Target User Group

Our target user group is movie consumers. Comprising various subgroups, has two divisions: dedicated consumers and recreational consumers. The dedicated film consumer watches a large quantity of content. They maintain a comprehensive list of movies and shows they intend to watch, consistently updating it. They likely have friends who consume a similar amount of media. The casual film consumer watches significantly fewer movies and shows. Due to not being able to watch movies and shows, they typically have a large backlog of movies and shows.

1.3 Benefits to System Users

There would be various benefits that an app like this would give a user, including:

- The ability to easily keep track of movies users want to watch
- Collaboration on a movie log with friends
- The ability to quickly search movies and add them directly to the desired log
- The ability to view other's logs and add movies from the other user's list to theirs
- The ability to easily rearrange logs if interest in a movie changes

Chapter 2

Design Information

2.1 Design Intro

Designing the backend of BackBlog is an integral step in the development process. The system diagram overviews interactions between a user and processes that accompany different user actions. The user interface (UI) design of BackBlog was an iterative process. Many of the initial concepts and designs of the UI drew inspiration from UI principles of popular streaming and playlist apps.

2.2 System Diagram

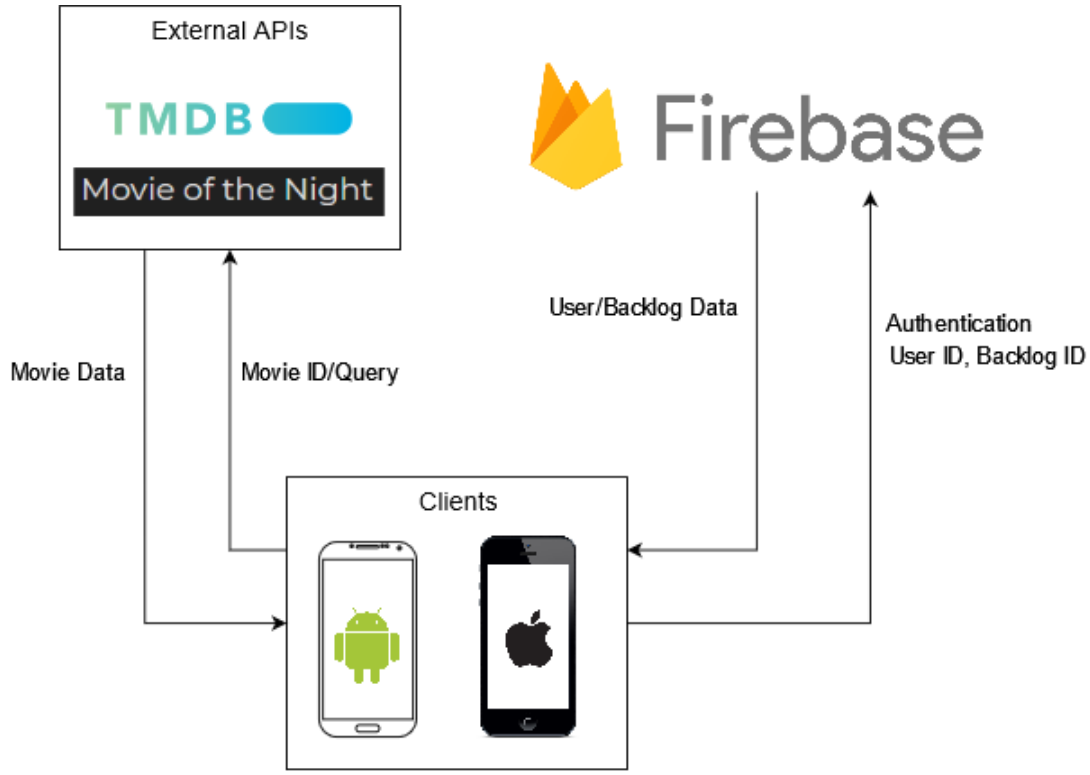

Figure 2.1: System Diagram

The simplified system diagram of BackBlog is shown above in Figure 2.1. Clients refer to the users searching for movies, creating logs, and adding friends. All movie-related information, including images, cast, genre, and movie name, is queried from external APIs. Data, including logs, user info, and friends, are stored on our database shown on the top right. The logs consist of movie identifiers that, when users request to view these logs, are utilized to query the database and display the movies from the log to the user.

2.3 History of System Design

As mentioned earlier, BackBlog's user interface (UI) has gone through numerous iterations, which are described in this section.

2.3.1 Early UI Mock-Up

Below are two examples of an early mock-up of the UI and two examples of the final UI design.

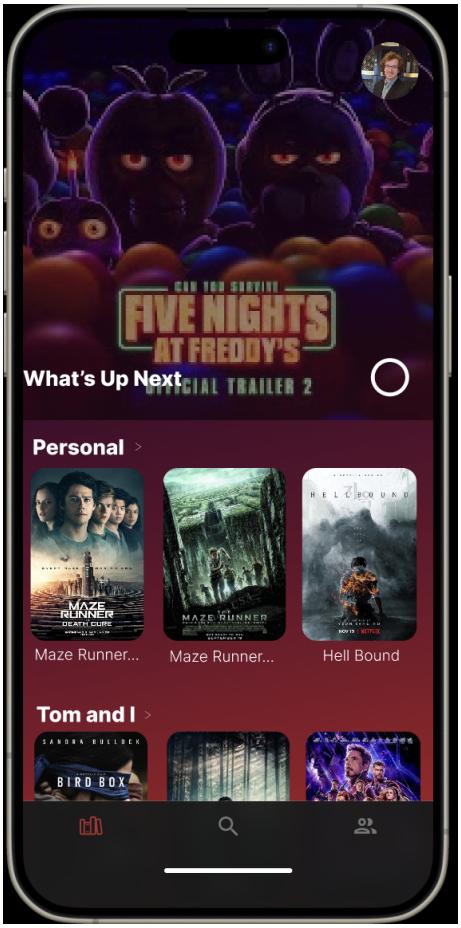

Figure 2.2: Early Landing Page UI

Figure 2.2 shows an early mock-up of our landing page. A "What's Up Next" section was added as the first thing a user views when opening the app. Another notable design choice is the circle on the bottom right of this "What's Up Next" section that allows the user to quickly mark the movie as watched. A profile selection

at the top of the screen takes the user to their profile. Finally, a navigation menu allows access to other parts of the app.

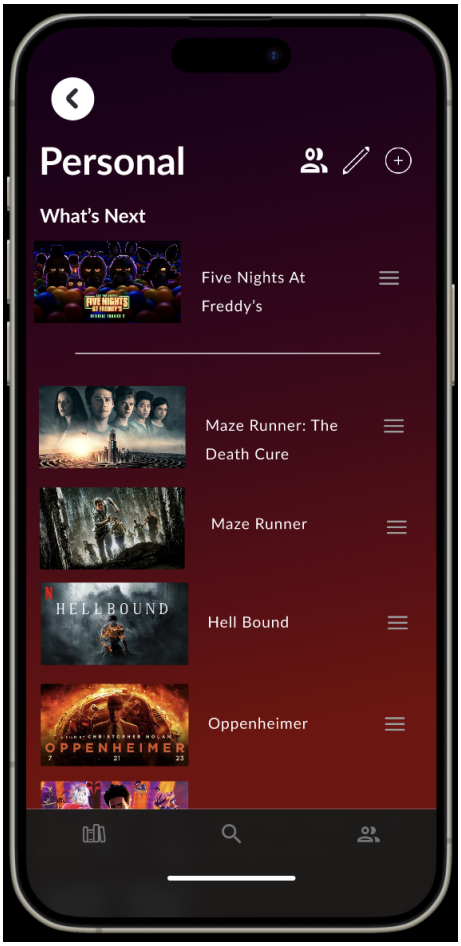

Figure 2.3: Early Movie Log Page UI

Figure 2.3 showcases an early mock-up of a log page. This is the page a user views when inspecting a specific log they have either created or are collaborating on. The "What's Next" feature is placed on this page. Additionally, the user has the ability to manage friends, edit, and add to the log in the top right. Lastly, the user can slide movies around in the log with the buttons to the right of the movies.

2.3.2 Second UI Mock-Up

In response to user feedback and collaborative discussions, minor adjustments have been implemented to more effectively align with the objectives and aesthetic preferences of our users.

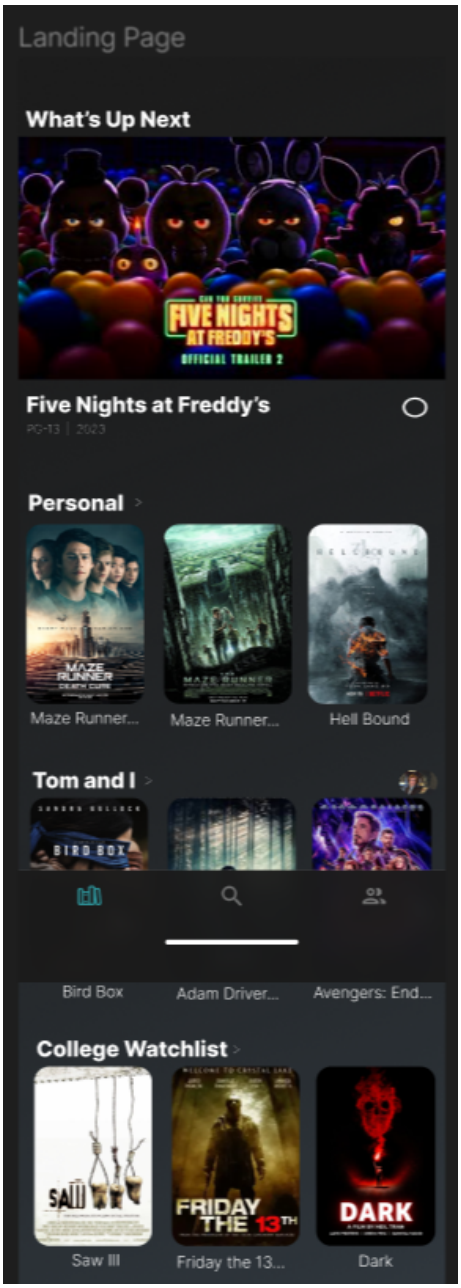

Figure 2.4: Second Landing Page

Figure 2.4 shows a redesign of the original landing page (Figure 2.2), including the removal of the profile button in the top right, shrinking the "What's Up Next" section, and moving the button to complete the "What's Up Next" movie below the section's area. Furthermore, a profile picture is shown on the right next to the "Tom and I" movie log. These profiles show which users are collaborating on that specific log.

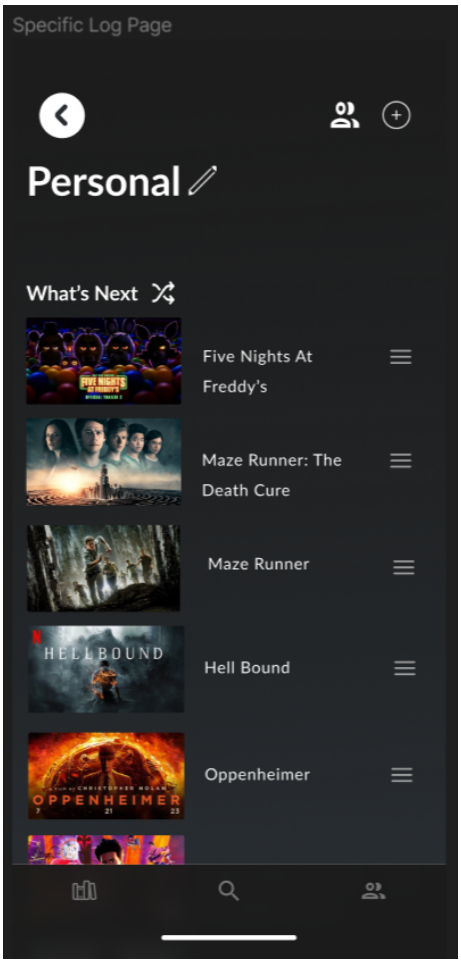

Figure 2.5: Second Log Page

The log page (Figure 2.3) was also modified and is shown in Figure 2.5 The line separating the "What's Next" and the rest of the list was removed. Profile pictures showing which user added a movie to the list were added. Many of the buttons for settings were rearranged. The social and add movie buttons were moved higher up to the top right of the screen. The edit button for the log was moved next to the name. In addition, a shuffle playlist button was added.

2.3.3 Final UI Mock-Up

We have a separate, fully interactive UI mock-up created. This mock-up re-imagines the early mock-ups, Figures 2.2 & 2.3, separately from the other mock-up design, Figures 2.4 & 2.5.

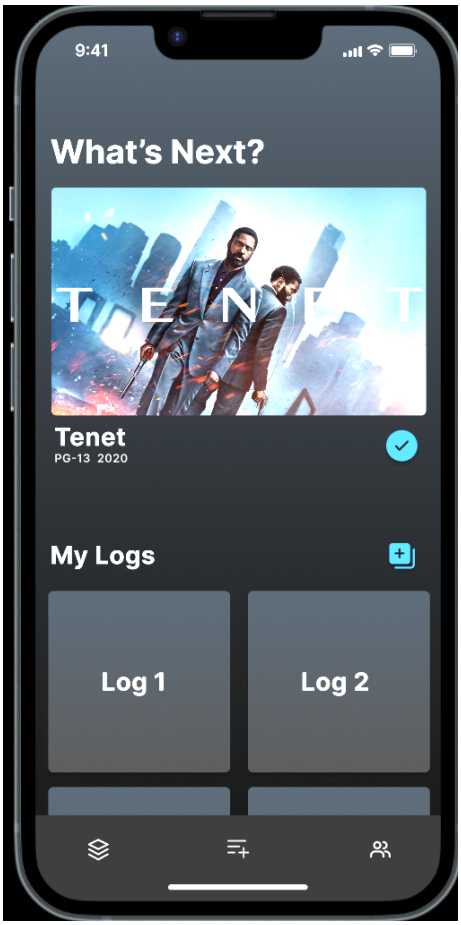

Figure 2.6: Final Landing Page

Figure 2.6 shows an alternate design of the early landing page, Figure 2.2. The "What's Up" section is still prominent, but features alterations in style, font, text placement, and button placement. The "My Logs" section was redesigned to ease the selection of a log as well as the easy creation of a new log with the plus button on the right.

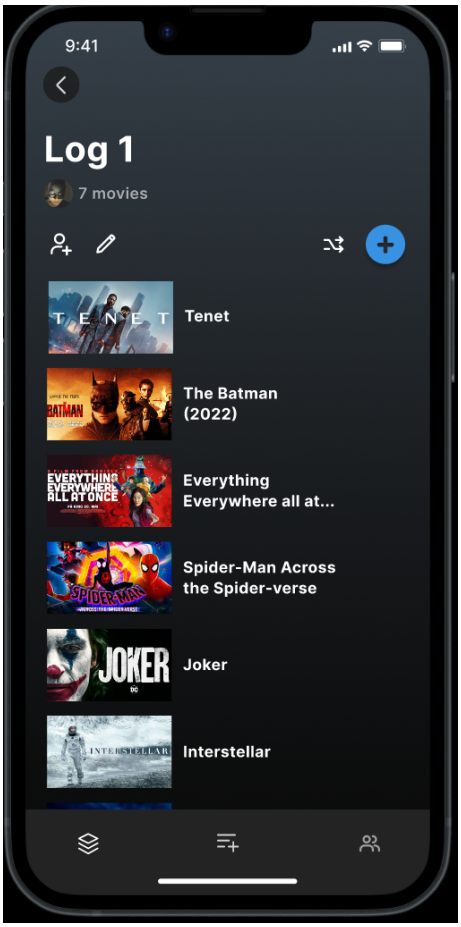

Figure 2.7: Final Log Page

Lastly, we redesigned the log screen, Figure 2.3, seen in Figure 2.7.

We decided to utilize the alternate UI design, Figures 2.6 & 2.7, and implement the most desirable features from the UI featured in Figures 2.4 & 2.5.

UI development required interviews with different user groups and redesigns based on user feedback. Note that only the log and landing pages are described here, but the designs are fully interactive with every page required in the final product.

Chapter 3

Design Evaluation

Following the designing process as described in the previous section 2.3, the UI was evaluated utilizing a heuristic analysis process as well as a cognitive walk-through [15]. User testing was conducted utilizing the final design mock-up detailed in section 2.3.3. The sections below describe the results of these evaluations and user testing, and changes made to the system in response.

3.1 Design Heuristics

Below is the heuristic analysis of the landing page seen in Figure 2.6.

Figure 3.1: Heuristic Evaluation of the final landing page

	Landing Page
Simple and Natural Dialog	No irrelevant or rarely used information. The order of the content aligns with the order of the user's tasks (the user will likely want to see the next movie before seeing an entire list of logs).
Speak User's Language	Using the term "logs" for playlists may confuse the user.
Minimize User Memory Load	Check button, Add button, logs, and bottom navigation.
Consistency	Navigation bar and symbols consistent
Provide Feedback	When a movie is marked as completed you see it replaced with a new movie. Furthermore, a message appears at the bottom of the screen notifying the user and giving them the option to undo the action.
Clearly Marked Exits	Navigation bar and logs.
Provide Shortcuts	Shortcut to view logs, movie info page, completing movie.
Prevent Errors	If a user accidentally selects a movie as "Watched" a prompt appears at the bottom of the screen to easily undo the action.

Below is the heuristic analysis of the log page seen in Figure 2.7.

Figure 3.2: Heuristic Evaluation of the final log page

	Log Page
Simple and Natural Dialog	No irrelevant or rarely used information. The content on this page is simply the name of the log, icons for various backlog tools, and a list of logged movies.
Speak User's Language	Like the landing page, using the term "logs" for playlists may confuse the user.
Minimize User Memory Load	4 buttons, add people, edit log, shuffle, and add to log. Nav bar is familiar from before.
Consistency	Able to tap movies to see info just like before. Nav bar & symbols are consistent.
Provide Feedback	After sliding the movie, it disappears from the log and appears at the bottom under the "Watched" section. A message also appears at the bottom of the screen notifying the user and giving them the option to undo.
Clearly Marked Exits	Nav bar
Provide Shortcuts	Click on movie to see info. Nav bar to leave movie
Prevent Errors	Sliding requires a more intentional action to move a movie to "watched". If a user unintentionally moves a movie to "watched", can slide to remove it from "watched" and add it to the log.

3.2 Cognitive Walk-through

The following sections detail the cognitive walk-through of users performing a variety of different tasks in BackBlog.

3.2.1 Complete Watched Movie from Landing Page

Task Description

Mark the 'What's Next' movie as completed to show the next movie.

Action Sequence

- Press check button next to movie title on Landing Page.
- Press "UNDO" button at bottom of screen to revert.

Walk-through

A user wants to indicate that they finished watching a movie and would like to see the next movie on their priority list.

- The user sees the "What's Next?" section of the landing page, which is the first thing they are presented with when opening the app, that contains the next movie in their priority log.
- The user sees the blue check mark button next to the movie title indicating completion.
- After the user clicks the check mark button, the "What's Next?" movie updates along with the priority log's background image. A bar also appears at the bottom of the screen informing the user that the movie has been added to a 'watched' list along with an "UNDO" button.

3.2.2 Access Log 1

Task Description

Access a log to view the movies in that log.

Action Sequence

- Press the desired log under the "My Logs" section of the Landing Page.

Walk-through

A user wants to view the movies in a specific log.

- The user sees the "My Logs" section of the Landing Page.
- The user sees a tile for each log they have created, containing the title and an image of the next upcoming movie in the list.
- The user clicks on the tile for an expanded view of the list.

3.2.3 Create New Log

Task Description

Create a new log for storing movies.

Action Sequence

Method 1

- Press the + button next to "My Logs" on the Landing Page
- Name the log appropriately
- Toggle the visibility of the log on public profile
- Invite collaborators through searching the friends list, click + next to each desired collaborator to invite
- Click "Create"

Method 2

- Navigate to the search page
- Search for a movie through the search bar
- Click the + to add the movie to a log
- Select "Create New Log"
- Name log appropriately
- Toggle visibility of the log on public profile
- Invite collaborators by searching their friends list, click + next to each desired collaborator to invite
- Click "Create"

Walk-through

A user wants to create a new log for storing movies.

- The user sees the "My Logs" section of the landing page.
- The plus button to the right of the logs section indicates creating/adding a new log (May be unclear, with no text labeling).
- The user clicks the plus button, which opens the "New Log" menu.
- The user sees a line with faded "Name" text prompting them to input the name of the new log.
- The user sees an eye icon next to the name, indicating visibility of the object. (Connection may not be clear.)
- The user sees a search bar under the "Add Collaborators" subsection.
- The user is given results based upon their search, in addition to a + for each result – allowing them to add/invite a desired user.
- The user clicks the blue "Create" button in the top right corner to finalize the creation of the new log.

3.2.4 Add Movie to Log

Task Description

Add a new movie to a log.

Action Sequence

Method 1

- Click the search button on the navigation bar
- Search for a movie with the search bar
- Click the "+" button that is on the same line of desired movie
- Click on the check box that is on the same line of desired log
- Click add to log

Method 2

- Click the search button on the navigation bar
- Search for a movie with the search bar
- Click on the desired movie
- Click add to log button
- Click on the "o" button that is on the same line of desired log
- Click add to log

Method 3

- Click on specific log on the landing page
- Click the "+" button
- Click the search button on the navigation bar
- Search for a movie with the search bar
- Click the "+" button that is on the same line of desired movie

Method 4

- Click on specific log on the landing page
- Click the "+" button
- Click the search button on the navigation bar
- Search for a movie with the search bar
- Click on the desired movie
- Click add to log

Walk-through

The user wants to add a new movie to a log of their choice.

- The user sees the search icon on the navigation bar section of the landing page.
- The user uses the search bar to search for a movie.
- The user sees the movie they want to add to a log and hit the "+" button.
- The user selects the log they want to add movie to.
- The user hits the confirm button that says add to log.

3.3 Results of User Testing

Using the interactive UI design 2.3.3, user testing was conducted using six users. The results are described in the table below:

Figure 3.3: Results of User Testing

	21 (M)	52 (F)	20 (M)	32 (F)	21 (M)	26 (M)	Overall
Feature Set							
+ Thought the watch movie feature was important	Y	Y	Y	Y	Y	Y	100%
- Complained that the landing was cluttered	N	Y	N	Y	N	N	33%
+ Thought the collaborative aspect of the app was important	Y	N	Y	Y	Y	Y	83%
+ Enjoyed the process of adding movies to multiple logs	Y	Y	N	N	Y	N	50%
+ Liked ability to quickly log a movie on landing page	Y	Y	Y	Y	Y	Y	100%
UX Design							
- Didn't see new log button	Y	Y	N	N	N	N	33%
- Didn't see how to add a new friend (Before Change)	Y	Y	Y	Y	N	Y	83%
- Didn't see how to add a new friend (Post Change)	N	N	N	N	N	N	0%
- Confused about add button on landing page (Similar to 9)	Y	Y	N	N	N	N	33%
Messaging							
+ Liked the aesthetic	Y	Y	Y	Y	Y	Y	100%
- didn't like the app name	Y	N	N	N	N	N	16%
- Confused about term "log" rather than "playlist"	Y	N	N	Y	N	N	33%
How valuable? 1 worthless - 10 Invaluable	7	3	7	6	9	7	7 (Median)
How easy to use? 1 being hard - 10 Easy	5	7	4	3	2	2	3.5 (Median)

Changes Made to UI after User Feedback

- Added a friend button to clarify the process of sending a friend request (User feedback demonstrated in UX Design section of Figure 3.3)
- Removed "Shuffle" button from the log page
- Changed background from reddish gradient to dark gray gradient

Chapter 4

Ethical Assessment and IP

4.1 Ethical Considerations & Social Issues

In addressing the ethical and social dimensions of our social media playlist app, TABKA adheres to the principles outlined in the Association for Computer Machinery Code of Ethics and Professional Conduct [10]. Data protection is a paramount concern, and TABKA prioritizes user privacy over potential financial gains from selling user data to external entities [19]. By placing users' privacy and their right to an advertiser-free environment at the forefront, we actively ensure ethical data handling practices.

Anonymity and confidentiality are essential aspects of user experience. TABKA commits to maintaining user anonymity by refraining from storing personal information [10]. Recognizing the potential risks associated with publicly available data, we acknowledge the inherent challenges in preserving complete anonymity in a social media context. Nevertheless, TABKA proactively safeguards user identities to the best extent possible within the nature of social media.

In upholding user authenticity and minimizing harm, TABKA implements robust measures against harmful impersonations [46] [[17]]. Instances of unauthorized impersonation are promptly addressed and removed, with escalated actions for repeated offenses. Furthermore, to protect minors, our app employs age verification through users' date of birth, ensuring that those under 13 cannot create accounts. By proactively addressing potential exposure to inappropriate content, TABKA fosters a secure and age-appropriate environment for all users.

4.2 Regulatory and Legal Issues

Given the social nature of the app, as well as copyrighted material such as movie posters within the app, TABKA must consider a variety of regulatory and legal issues.

4.2.1 Movie Copyright and Licensing

Including movie posters within our app carries the potential risk of legal action by movie studios, asserting copyright infringement due to their unauthorized use. To address this concern, we recommend performing a fair use analysis, seeking guidance from legal professionals, and proactively reaching out to the copyright

holders of the movie posters. We have also discovered that BackBlog's movie data provider, the Movie Database (TMDB), offers commercial licenses for businesses [2]. TABKA intends to contact TMDB to inquire about the licensing terms and whether it permits legal usage of its copyrighted material in a commercial setting. These steps are essential precautions to mitigate the risk of legal repercussions and ensure compliance with copyright laws.

4.2.2 Business Registration

In the process of establishing TABKA as a business, we will need to register our business with State and Federal agencies. Much of this registration simply involves providing our business name to state and federal agencies. Filing with the Internal Revenue Service (IRS) to obtain a federal tax ID, also known as an Employer Identification Number (EIN), will be required [6] [9] [3].

4.2.3 Privacy and Data Protection

Privacy Laws and Regulations we must consider and adhere to include:

- General Data Protection Regulation (EU) - In compliance with the General Data Protection Regulation (EU), TABKA is committed to transparent data practices, explicit consent for processing, and rigorous data protection impact assessments.
- California Consumer Privacy Act - Aligned with the California Consumer Privacy Act, TABKA pledges to disclose data collection practices, provide opt-out mechanisms for data sales, and facilitate accessible avenues for users to manage and delete their personal information.
- Child Online Privacy Protection Act - In adherence to the Child Online Privacy Protection Act, TABKA is dedicated to obtaining parental consent, ensuring clear communication of privacy practices, and implementing secure data handling measures for children.
- Personal Information Protection and Electronic Documents Act (Canada) - In accordance with the Personal Information Protection and Electronic Documents Act (Canada), TABKA is committed to securing consent for data collection, articulating processing purposes, and maintaining robust security measures for personal information protection.
- Data Breach Notification Laws - As required by law for all territories and states in the US, TABKA is obligated to notify consumers and authorities of a data breach that results in the compromising of any user's personal data.

4.2.4 Geographical Restrictions

It is important to consider geographical restrictions that enforce specific regulations on content, functions, and data privacy. These regulations may require TABKA to limit the availability of our app to specific geographical regions in order to ensure our app is adhering to the legal landscape of the user's location [7].

4.2.5 Terms of Service Agreement

It would be prudent for TABKA to consult with a legal professional prior to the distribution of the app in order to create a Terms of Service Agreement. This allows TABKA to ensure that each user is informed of the expected behavior and actions allowed within BackBlog.

4.3 IP and Licensing Considerations

The following section outlines the IP and Licensing Considerations that TABKA has evaluated during the design of BackBlog.

4.3.1 IP

In terms of IP ownership, the ownership of the entire project will be split evenly amongst all five developers. If a developer is uninterested in retaining their portion of the project, that portion will be divided evenly amongst the remaining developers.

4.3.2 Saint Vincent College IP Consideration

Given that our app does not associate with Saint Vincent College (SVC) in any way, there should be no IP conflicts. Based on the publicly available information from various SVC documents, no IP-related issues were discovered in any policy accessed through the SVC student portal. Reached out to legal regarding the IP policy of the college. This section will be updated if a response is given.[1]

4.3.3 Licensing

TABKA plans to license the code using the Apache 2.0 license. Granting the public the ability to iterate and improve on our project will allow for innovation in the design and concept of BackBlog or a similar piece of software.

[1] Update as of 12/02/2023, legal refused to make a comment regarding the college's stance on IP for student-created projects.

Chapter 5

Assessment of Team Performance

Below are performance metrics that provide insight into the overall productivity and quality of the work that TABKA accomplished throughout the three sprints. Each sprint involved different types of tasks that warrant different metrics for each sprint.

Figure 5.1: Sprint Metrics

Sprint	Team Member	Tasks Assigned	Tasks Completed	Scrum Attendance
1	Nick	3	3	100%
	Jake	3	3	100%
	Christian	3	3	100%
	Josh	3	3	100%
	Tom	3	3	100%
2	Nick	6	6	100%
	Jake	5	5	100%
	Christian	5	5	100%
	Josh	5	5	100%
	Tom	5	5	100%
3	Nick	7	7	100%
	Jake	4	4	100%
	Christian	4	4	100%
	Josh	4	4	100%
	Tom	4	4	100%

Figure 5.2: Sprint 2 UI Metrics

Metric	First UI Iteration	Second UI Iteration	Final UI
Num. Clicks to Furthest Page	6 Clicks	4 Clicks	4 Clicks
Apple Guidelines Compliance Rate	50%	84%	90%
Tasks Completed on Own	4/8 Tasks	7/8 Tasks	7/8 Tasks

Figure 5.3: Documentation Metrics

Metric	Value
Sprint 1 - Revisions	12
Sprint 2 - Revisions	20
Sprint 3 - Revisions	31

Figure 5.4: Sprint 3 Quality Metrics

Metrics	Values
Tweaks made to UI	5
Number of Users Tested	10
Percentage of App Analyzed Heuristically	100%
Percentage of App Analyzed Cognitively	40%

Bibliography

[1] "Accessibility for android apps," https://developer.android.com/design/ui/mobile/guides/foundations/accessibility, accessed: 2023-11-17.

These guidelines establish a design standard to be employed in crafting our Android app, aiming to enhance the overall user experience.

[2] "Getting started," https://developer.themoviedb.org/reference/intro/getting-started, accessed: 2023-12-7.

The Movie Database (TMDB) will serve as the movie data provider for TABKA, supplying information such as movie titles, descriptions, and poster images for BackBlog.

[3] "Irs ein application," https://irs.taxid-us.com/?keyword=ein%20application&source=Google&adAccount=460-350-8849&network=g&device=c&devicemodel=&mobile=&campaign=16890824138&matchType=e&gad_source=1&gclid=Cj0KCQiAyKurBhD5ARIsALamXaHlaSgV6-xe7Nd_cdl1DynunC7LqDaCFDSMBUb4-COycOIX3fwUdBMaAjQZEALw_wcB, accessed: 2023-12-2.

Information and application for IRS Employer Identificaiton Number.

[4] "Picasso," https://square.github.io/picasso/, accessed: 2023-12-7.

Using this library, TABKA can load and cache images on BackBlog's android platform by calling one method.

[5] "Privacy and security," https://www.ftc.gov/business-guidance/privacy-security, accessed: 2023-11-28.

TABKA will need to consider the legal and regulatory issues for our app such as data privacy and protection, Child Online Privacy Protection Act, and the Red Flag Rule.

[6] "Register your business," https://www.sba.gov/business-guide/launch-your-business/register-your-business, accessed: 2023-12-2.

Information regarding registering a business with Small Business Administration.

[7] "Requirements for distributing apps in specific countries/regions," https://support.google.com/googleplay/android-developer/answer/6223646?hl=en, accessed: 2023-11-28.

This information guides our regional distribution processes, ensuring compliance with local laws and regulations across different locations.

[8] "Streaming availability API," https://www.movieofthenight.com/about/api, accessed: 2023-10-1.

A helpful resource in implementing a system to inform the user on the streaming platforms for each movie.

[9] "PA business One-Stop shop - registering your business," https://business.pa.gov/register/, Dec. 2019, accessed: 2023-12-2.

If commercializing BackBlog, TABKA will need to ensure that our business is registered with the Pennslyvania State Government.

[10] ACM Code 2018 Task Force: Executive Committee Don Gotterbarn (Chair), Bo Brinkman, Catherine Flick, Michael S Kirkpatrick, Keith Miller, Kate Varansky, and Marty J Wolf. Members: Eve Anderson, Ron Anderson, Amy Bruckman, Karla Carter, Michael Davis, Penny Duquenoy, Jeremy Epstein, Kai Kimppa, Lorraine Kisselburgh, Shrawan Kumar, Andrew McGettrick, Natasa Milic-Frayling, Denise Oram, Simon Rogerson, David Shamma, Janice Sipior, Eugene Spafford, and Les Waguespack, "ACM code of ethics and professional conduct," https://www.acm.org/code-of-ethics, accessed: 2023-10-5.

During the development of our app we will be utilizing the ACM Code of Ethics to guide our core design philosophy and principles. Chapter 4.1 breaks down our ethical considerations and references the ACM Code of Ethics.

[11] V. Bakhtiary, T. J. Gandomani, and A. Salajegheh, "The effectiveness of test-driven development approach on software projects: A multi-case study," *Bulletin of Electrical Engineering and Informatics*, vol. 9, no. 5, pp. 2030–2037, Oct. 2020.

The reduction in bugs with test-driven development is an advantageous benefit that TABKA considers an important part of its use in the development process.

[12] A. Barea, X. Ferre, and L. Villarroel, "Android vs. iOS interaction design study for a student multiplatform app," in *HCI International 2013 - Posters' Extended Abstracts*. Springer Berlin Heidelberg, 2013, pp. 8–12.

This study revealed some important differences between the design of an IOS application and the design of an Android application that TABKA will need to consider when developing BackBlog.

[13] J. S. Bauer, A. L. Jellenek, and J. A. Kientz, "Reflektor: An exploration of collaborative music playlist creation for social context," pp. 27–38, Jan. 2018.

By emphasizing users' social interaction around movies and their related behaviors, we prioritize the social aspect of our app for a more engaging collaborative experience.

[14] R. Beetham, *Rethinking Pedagogy for a Digital Age*, 3rd ed. Routledge, July 2019.

Informs us on the creation of a user-friendly mobile experience that we can implement through prioritizing our user's needs, tailoring the experience for mobile interactions, and fostering collaborative experience.

[15] J. R. Clayton Lewis, "Task-Centered user interface design," https://hcibib.org/tcuid/, 1993, accessed: 2023-11-18.

Class textbook. Guided user testing practices and outlined heuristic analysis and cognitive walk-through process.

[16] CMU Office of the Vice President for Research, "CMU open source license grid."

Reference for different types of open source licenses that informed our decision on the type of licensing we will use for our app.

[17] C. Cox, "PROTECTING VICTIMS OF CYBERSTALKING, CYBERHARASSMENT, AND ONLINE IMPERSONATION THROUGH PROSECUTIONS AND EFFECTIVE LAWS," *Jurimetrics*, vol. 54, no. 3, pp. 277–302, 2014.

While we are obligated to include 'blocking' features, this provides additional insight into how we design that feature for the safety of our users.

[18] P. Darshna, "Music recommendation based on content and collaborative approach & reducing cold start problem," in *2018 2nd International Conference on Inventive Systems and Control (ICISC)*. IEEE, Jan. 2018, pp. 1033–1037.

Future considerations of implementing a movie recommendation system that utilizes metrics to focus on recommending movies based on taste similar to their friends could potentially enhance a user experience.

[19] Digital Communications Division (DCD), "Social media policies," https://www.hhs.gov/web/social-media/policies/index.html, Feb. 2013, accessed: 2023-10-5.

Outline best practices for comment moderation, handling copyrighted content, and record-keeping to ensure legal protection and safeguard user privacy.

[20] M. Flauzino, J. Veríssimo, R. Terra, E. Cirilo, V. H. S. Durelli, and R. S. Durelli, "Are you still smelling it? a comparative study between java and kotlin language," in *Proceedings of the VII Brazilian Symposium on Software Components, Architectures, and Reuse*, ser. SBCARS '18. New York, NY, USA: Association for Computing Machinery, Sept. 2018, pp. 23–32.

TABKA needs to consider using Kotlin for our Android app and be aware of the design infringments of Java.

[21] C. M. Gartrell, "SocialAware: Context-aware multimedia presentation via mobile social networks," Ph.D. dissertation, University of Colorado at Boulder, Ann Arbor, United States, 2008.

The context-aware multimedia applications and social network integration in this framework can enhance a collaborative movie playlist app by tailoring content recommendations based on the collective preferences of users sharing the playlist, creating a more personalized and engaging shared viewing experience.

[22] R. Goldman, N. Shivakumar, S. Venkatasubramanian, and H. Garcia-Molina, "Proximity search in databases," in *Proceedings of the 24rd International Conference on Very Large Data Bases*, ser. VLDB '98. San Francisco, CA, USA: Morgan Kaufmann Publishers Inc., Aug. 1998, pp. 26–37.

Proposes advanced algorithms for genre and actor-based analysis, empowering our app to assess users' movie preferences and laying the groundwork for potential integration into a discover or exploration feature.

[23] D. B. Hauver and J. C. French, "Flycasting: using collaborative filtering to generate a playlist for online radio," in *Proceedings First International Conference on WEB Delivering of Music. WEDELMUSIC 2001.* IEEE, 2001, pp. 123–130.

TABKA may potentially consider personalized filtering later in the app development to personalize user experience.

[24] P. Hewinson, "Movie finding," Patent 20 140 067 935:A1, Mar., 2014.

If we implement any possible recommendation features this could be useful.

[25] R. F. Hunter, A. Gough, N. O'Kane, G. McKeown, A. Fitzpatrick, T. Walker, M. McKinley, M. Lee, and F. Kee, "Ethical issues in social media research for public health," *Am. J. Public Health*, vol. 108, no. 3, pp. 343–348, Mar. 2018.

Informs our ethical considerations when it comes to regulating minors
.

[26] W. Hürst and B. dos Santos Carvalhal, "Mobile interface design for online movie databases – comparing active exploration with standard UI designs," in *2018 IEEE International Conference on Multimedia & Expo Workshops (ICMEW).* IEEE, July 2018, pp. 1–6.

Insight into designing a more unique layout for our UI that utilizes the meta data of a movie, making our UI more informative.

[27] A. Hussain, E. O. C. Mkpojiogu, Y. Muniandy, N. Fairuza, and M. Aslam, "An assessment of the ergonomic quality of a mobile cinema app with novice and expert users," vol. 29, no. 8, pp. 172–179, June 2020.

Clarity of information, aesthetics of the UI, recovery from mistakes, and overbearing advertisements are major pain points for movie-related apps.

[28] M. E. Joorabchi, A. Mesbah, and P. Kruchten, "Real challenges in mobile app development," in *2013 ACM / IEEE International Symposium on Empirical Software Engineering and Measurement*. IEEE, Oct. 2013, pp. 15–24.

Highlights current challenges to be aware of in app development, such as developing apps across multiple platforms, lack of robust monitoring, analysis, and testing tools, and emulators that are slow or miss many features of mobile devices

[29] H. Khalid, E. Shihab, M. Nagappan, and A. E. Hassan, "What do mobile app users complain about?" *IEEE Softw.*, vol. 32, no. 3, pp. 70–77, 2015.

TABKA must prioritize the privacy of its users, ensure that they are not being taken advantage of, and avoid hidden costs – which most negatively impacts iOS reviews.

[30] C. Khawas and P. Shah, "Application of firebase in android app Development-A study," *Int. J. Comput. Appl. Technol.*, vol. 179, no. 46, pp. 49–53, June 2018.

TABKA can take advantage of Firebase's Realtime Database triggers for instant synchronization, ensuring that one user's playlist updates are immediately reflected across all devices.

[31] V. Lee, H. Schneider, and R. Schell, *Mobile Applications: Architecture, Design, and Development*. USA: Prentice Hall PTR, Mar. 2004.

TABKA must be mindful of, specifically ensuring compatibility across different mobile devices and effective integration with existing databases.

[32] R. Leitão, "Creating mobile gesture-based interaction design patterns for older adults: a study of tap and swipe gestures with portuguese seniors," Oct. 2012.

Swiping gestures, such as those in the individual log view, may not be easily understandable for certain demographics, particularly the older population. TABKA aims to create supplementary cues that enhance the clarity of these gestures, ensuring that users of all demographics can easily recognize and learn them.

[33] Z. Li, M. Song, S. Duan, and Z. Wang, "Are users attracted by playlist titles and covers? understanding playlist selection behavior on a music streaming platform," *Journal of Innovation & Knowledge*, vol. 7, no. 3, p. 100212, July 2022.

Focusing on having the user feel attached to their playlist is important for our app, look into further customization options such as fonts and images for a user's log.

[34] K. Liu and R. A. Reimer, "Social playlist: enabling touch points and enriching ongoing relationships through collaborative mobile music listening," in *Proceedings of the 10th international conference on Human computer interaction with mobile devices and services*, ser. MobileHCI '08. New York, NY, USA: Association for Computing Machinery, Sept. 2008, pp. 403–406.

Adding a feature that allows users to describe why they added a movie provides a deeper emotional connection between the user and their fellow collaborators. (Makes the app more meaningful to certain users).

[35] M. Löchtefeld, M. Böhmer, and L. Ganev, "AppDetox: helping users with mobile app addiction," in *Proceedings of the 12th International Conference on Mobile and Ubiquitous Multimedia*, ser. MUM '13, no. Article 43. New York, NY, USA: Association for Computing Machinery, Dec. 2013, pp. 1–2.

Given that users mostly suppress the use of social networking apps to manage smartphone addiction, BackBlog should seek to minimize addictive features that negatively impact the habits of its users.

[36] K. Lukoff, U. Lyngs, H. Zade, J. V. Liao, J. Choi, K. Fan, S. A. Munson, and A. Hiniker, "How the design of YouTube influences user sense of agency," in *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*, ser. CHI '21, no. Article 368. New York, NY, USA: Association for Computing Machinery, May 2021, pp. 1–17.

Designing our app to reduce these exploitation moments can help users feel greater agency within our app. Things like auto-play reduce that feeling of agency and, while our app will not have auto-play, we can avoid similar automated features that would inhibit users feeling of agency.

[37] Matthew David New and D. D. Baird, "System and method for creating a collaborative playlist," Patent 7 818 350, Oct., 2010.

Frameworks the flow of a collaborative playlist that informed our design when creating the UI/UX for a collaborative log.

[38] S. M. Murphy, C. B. Weare, C. A. Evans, and C. C. Gibson, "Social graph playlist service," Patent 20 100 324 704:A1, Dec., 2010.

By leveraging the foundational principles of social interaction, predictive algorithms, and user interface design from the realm of music, we can seamlessly implement these core concepts into a collaborative movie playlist app, enhancing the user experience through a recommendation engine, real-time friend activity updates, and tailored UI formats for the video domain.

[39] M. J. Pachali and H. Datta, "What drives demand for playlists on spotify?" July 2022.

Embrace the essence of playlist curation and collaborative efforts, strategically harness data for continuous playlist enhancement, and explore potential commercial partnerships to expedite the app's growth and development.

[40] S. Park, A. Laplante, J. H. Lee, and B. Kaneshiro, "Tunes together: Perception and experience of collaborative playlists," *International Society for Music Information Retrieval Conference*, 2019.

Informs us of the power of social playlists and the kind of emotions and psychological impact making a playlist with others can have. Provides us with insight into what users will be feeling when they use our app.

[41] S. Y. Park and B. Kaneshiro, "Social music curation that works: Insights from successful collaborative playlists," *Proc. ACM Hum.-Comput. Interact.*, vol. 5, no. CSCW1, pp. 1–27, Apr. 2021.

In alignment with our considerations on reducing the complexity of our application, TABKA has chosen to keep the collaborative playlist feature due to its significant in facilitating social recommendations.

[42] ——, "User perspectives on critical factors for collaborative playlists," *PLoS One*, vol. 17, no. 1, p. e0260750, Jan. 2022.

The insights derived from the music research, encompassing frameworks, user behaviors, and distinctive factors, could profoundly shape the priorities, features, marketing strategies, and other facets of a collaborative movie playlist app development team, with particular emphasis on the relevance of social motivations and outcomes.

[43] J. Phillips, I. Silva, and S. Wood, "Display screen with graphical user interface," Patent D843 383:S1, Mar., 2019.

This resource provides information regarding a patent that claims a graphical user interface for playlists on a mobile device. We do not infringe upon this patent's grid-like playlist.

[44] B. P. D. Putranto, R. Saptoto, O. C. Jakaria, and W. Andriyani, "A comparative study of java and kotlin for android mobile application development," in *2020 3rd International Seminar on Research of Information Technology and Intelligent Systems (ISRITI)*. IEEE, Dec. 2020, pp. 383–388.

The use of Kotlin will lead us to a more readable and maintainable codebase, which will allow for a smoother collaboration among team members.

[45] M. Rebouças, G. Pinto, F. Ebert, W. Torres, A. Serebrenik, and F. Castor, "An empirical study on the usage of the swift programming language," vol. 1, pp. 634–638, Mar. 2016.

TABKA is strongly considering to use the third-party library Retrofit to make HTTP request.

[46] L. Reichart Smith, K. D. Smith, and M. Blazka, "Follow me, what's the harm: Considerations of catfishing and utilizing fake online personas on social media," *J. Legal Aspects Sport*, vol. 27, no. 1, pp. 32–45, 2017.

Informs us of the practices and harm that user imitation can have such as deformation and harassment. Useful insight in regulating account creation and moderation on our app.

[47] S. Srinivasan, "Movie box: an android application using REST interface," Ph.D. dissertation, California State University, Sacramento, Dec. 2017.

Backblog may benefit by utilizing the android library Picasso for easy and efficient image loading.

[48] S. Syed, S. Anwar, K. R. Deep, and K. N. Katju, "MoviesDB android application," https://ijisrt.com/assets/upload/files/IJISRT21JUL325.pdf, accessed: 2023-12-5.

In response to poor design choices of similar applications, including the requirement of being logged in to an account before being able to complete any task, TABKA plans to implement features that resolve these poor design choices.

[49] T. D. Vo, "Application of protocol-oriented programming in ios development," p. 38, 2019.

Explained much more in-depth in Chapter 4.1.1 under the 'User Authenticity' section. Informs us of the practices and harm that user imitation can have. Useful insight in regulating account creation and moderation on our app.

[50] M. D. Wheatley, "Method and apparatus for generating a collaborative playlist," Patent 20 110 314 388:A1, Dec., 2011.

The user journey involves initiating a playlist, inviting contributors, and receiving real-time notifications for iterative track additions, all supported by a backend layout encompassing a media service platform, databases for content and user details, and APIs for efficient communication—a structure that inspired much of BackBlog's conceptual framework.

[51] J. M. Zydney and Z. Warner, "Mobile apps for science learning: Review of research," *Comput. Educ.*, vol. 94, pp. 1–17, Mar. 2016.

The design of our app incorporates several similar design features, location-aware functionality, and visual/audio representations found in other apps. This approach aims to enhance the user experience, particularly for newcomers, by making our app more intuitive and user-friendly.