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|  |  | Yesteryear  By Aryan Bataan  CSC3150: Systems Design  Bataan Aryan - System Proposal Part 1 + Part 2 - Yesteryear - v1  Professor Andy Cameron  May 2, 2024 |



Table of Contents

[Executive Summary 2](#_Toc167221726)

[1.0: Introduction and Overview 3](#_Toc167221727)

[2.0: System Initiation 6](#_Toc167221728)

[3.0: Feasibility Assessment 6](#_Toc167221729)

[Introduction 6](#_Toc167221730)

[Feasibility Analysis 6](#_Toc167221731)

[Additional Comments: 9](#_Toc167221732)

[Conclusion: 9](#_Toc167221733)

[4.0: Requirements Definition 9](#_Toc167221734)

[Introduction: 9](#_Toc167221735)

[Functional Requirements: 9](#_Toc167221736)

[Data Requirements: 11](#_Toc167221737)

[Non-Functional Requirements: 12](#_Toc167221738)

[5.0: Requirements Model 12](#_Toc167221739)

[6.0: System Evolution 35](#_Toc167221740)

[7.0: Conclusions and Recommendations 35](#_Toc167221741)

[Appendices 35](#_Toc167221742)

[Glossary 35](#_Toc167221743)

[Bibliography 36](#_Toc167221744)

## 

## Executive Summary

The following proposal outlines the development of Yesteryear, a software application optimized for the Apple Vision Pro headset that strives to provide an immersive cinematic experience for moviegoers while keeping their comfortability in mind. The application deems it necessary to address the treatment that moviegoers today are being given for their hard-earned money by offering an alternate and more rewarding experience at a one-time cost. Yesteryear will also use the Dolby Atmos surround sound technology to complement the visual symphony at the forefront. Lastly, Yesteryear will answer to the shareholders who have placed their faith in the project from day one, which includes film studios, filmmakers, investors, developers, Apple, and content providers.

## 1.0: Introduction and Overview

Problem Statement

The ideal customer for Yesteryear is the average moviegoer, and we're hired to provide them with a fully immersive experience that offers them a sense of respite within the comfort of their home. The main takeaway from today's movie theatre experience is that there is little left of the care and dedication that there once was for the customers. It's merely a hollow transaction between a conglomerate and a product consumer. The satisfaction of pleasing a customer is ultimately the aspiration of the team behind Yesteryear while also lending an ear to any complaints they might have with the software application.

Project Vision and Scope

Vision Statement:

Yesteryear's vision is to offer a software application that allows the user to fully immerse themselves in a cinematic experience at a low price while keeping the customer's comfort in mind. The film formats available for the user include IMAX, IMAX 70MM, 70MM, and 35MM. The medium for providing surround sound will be Dolby Atmos.

The project's scope is to curate an interface that can be utilized efficiently, resembling the familiar look of IOS applications. The suggested strategy is to create the application in the IOS format, specifically in the Apps and Games section.

Requirements Summary

* The application should efficiently shift from one film format to the next depending on the user's preference for the format in which they wish to watch a film.
* Users need to be able to effortlessly maximize or minimize the screen size.
* Spatial audio should not intrude between the user and the immersive experience they seek from the product. Instead, it should act as an intermediary feature that assists the user in surrendering to the experience at hand.
* The buffering of films should not interrupt the viewing experience and will occur before the movie begins. Also, the pre-buffering will prompt the user to choose between waiting for the film to fully buffer or returning later.

Stakeholders and Their Interests

The principal stakeholders would be film studios, filmmakers, investors, developers, Apple, and content providers. The collective interests of the stakeholders would be for the application to function correctly and ensure it reaches the widest audience possible.

Expected Costs and Benefits

Costs:

The development of such an application would be the costliest, outside of content acquisition and licensing. Development costs include employing developers and designers responsible for giving birth to the application's interface and appearance for the users. The content acquisition is no less hefty of a price tag than the development, as the process necessitates that the content being shown be first licensed with a revenue-sharing agreement or royalties.

Business Benefits:

The primary benefit of Yesteryear would be the maximal accessibility of such an immersive experience without having to leave your home. However, if insurance of comfortability could run businesses, companies wouldn't see any returns. Therefore, the business benefit from Yesteryear would be generated by the one-time purchase fee of $9.99, which gives the user access to all of Yesteryear's features without the cumbersome penetration of advertisements. Also, using surveys for the customer would immensely benefit the development team by letting them know of any flaws in the application so they can make sure not to allow any faults to interfere with their future experiences while using Yesteryear.

Constraints:

The major constraint that might limit Yesteryear's success would be content licensing and copyrights; to receive copyrights for certain films is challenging based on the cooperation of the numerous estates and film studios. Another constraint would be attaining regulatory compliance, which varies depending on the region and market in which the product is marketed, and compliance with applicable laws such as data protection regulations, content rating requirements, and consumer protection laws must be ensured.

Recommendation

Upon receipt of this proposal, the reader should do the following:

* Guage the applicability and prospects of Yesteryear by analyzing the demand for high-quality cinema experiences in a virtual or augmented reality environment.
* Assess the development costs, which include hiring skilled developers who are accomplished in visionOS, Xcode, and Reality Composure Pro, all essential components for constructing and enhancing spatial content.
* Examine the possible benefits that come with Yesteryear, whether it be the revenue derived from the one-time purchase fee, constant user engagement, and the competitive edge of delivering a worthier theatre-like experience in a setting that’s personal to each individual in their own way.
* Confront the constraints posed by the project, including the technological limitations, securing film and film format licenses, and ensuring the application’s availability to users around the globe.

Next Steps:

* A thorough market analysis must be overseen to corroborate the demand for such a product.
* Negotiations between the Yesteryear team and film studios must be initiated to secure the licenses for the film formats and films they support.
* Assemble a development team of software developers with virtual reality, software development, and audio engineering expertise.
* Design a user interface that is intuitive and visually appealing to the user that truly takes advantage of the capabilities of the Apple Vision Pro headset. Also, user testing and feedback will be asked of the user to assure them that their concerns are being heard and responded to.
* The rollout and launch for Yesteryear will be integral to both its critical and commercial prospects. An early beta launch will be beneficial in giving the users a taste of what’s to come, followed by a high-impact marketing campaign.

Document Overview:

The remaining sections of the system proposal include the system initiation, feasibility assessment, requirements definition, requirements model, system evolution, and conclusions/recommendations. The system initiation is the beginning of the process, the feasibility assessment is the articulate analysis of the project's feasibility, the requirements definition centers around the functional and non-functional requirements of the software application, the requirements model makes use of use-case diagrams and use-case descriptions to highlight some of the specific features, system evolution takes into consideration what the future holds for Yesteryear and any upgrades in mind later down the road, and conclusions/recommendations will list any final takeaways from the sections mentioned above or recommendations inspired by them.

## 2.0: System Initiation

Project Initiation Requestion (PIR)

A copy of the original Project Initiation Request (PIR).



## 3.0: Feasibility Assessment

## Introduction

The upcoming analysis will expand on the possible feasibility for Yesteryear. The rating scale is based on a verbal scale relying on the degree of risk: very low risk (low risk), medium, and high risk (very high risk). Another rating scale would be based on perceived feasibility: very risky, risky, feasible, and excellent.

## Feasibility Analysis

**Technical Feasibility**:

The technical feasibility of Yesteryear is **feasible**.

User familiarity: The popularity of augmented reality/virtual reality headsets has undoubtedly increased the awareness of the depths that software applications can plow within that sandbox. Therefore, it is safe to say that users will not find the interface and infrastructure challenging to work with. With that said, a basic tutorial would still be offered to users if they wish to refamiliarize themselves with the interface. This area is **feasible**.

Content Integration: The integration of films and other content, such as TV shows, would have to be executed to optimize playback performance and quality. Specifically, streaming content over the internet, caching content locally or utilizing methods of compressing file sizes. Feasibility is **ideal** in this area.

Updates and Maintenance: The constant evolution of the application demands that extra care be catered towards modular architecture, version control, and automated testing to facilitate ongoing development and support. To fully envision this possibility, the software application must be designed with scalability and maintainability in mind to support future updates, patches, and maintenance. This area is **feasible**.

Project Size: The harmony shared between each of the multiple moving parts of this application must coincide in a way that allows each part to play its roles to the best of its capability. The feasibility of this area is **risky**.

**Resource Feasibility:**

Technological Infrastructure: The playing field of software applications created for augmented reality/virtual reality headsets is a towering asset to assess whether the necessary technological infrastructure, such as development tools, hardware devices, software platforms, and cloud services, is available or can be acquired to support the development and deployment of Yesteryear. In particular, the simplicity of the layout displayed in QuickTime Player is an inspiration in putting forth the necessary tools for the user to utilize at their convenience. With this frame of reference, the feasibility of Yesteryear becomes more **ideal** and at a **very low risk**.

**Schedule Feasibility:**

An entire year should be set aside for Yesteryear to be built due to the commitments needed to examine the ebbs and flows of the entertainment industry, specifically the process of attaining licenses for films and other forms of related visual media. Being able to acquire these licenses is detrimental to the success of Yesteryear because they steer the team away from facing legal charges and unexpected delays in the project's timeline. To address such a risk, more than sufficient financial resources must be available to secure the licenses. Although the licenses may cost a pretty penny, their benefits directly impact the application by warranting its credibility and rightfulness of the application. With enough licenses, users can enjoy a more comprehensive array of films than a narrow selection of films they might not have an affinity for. By settling on a set budget for the licensing fees, the project can move forward without hesitation, resulting in an **ideal** position for the feasibility rate.

**Organizational Feasibility:**

Yesteryear strives to clear the way for users to experience a fresh method of watching films instead of the conventional methods available elsewhere. In addition, the marketing of Yesteryear is what will ultimately assist its prospects in reaching the masses and convincing them of Yesteryear's capabilities compared to the other industry standards of watching films. Upon launch, the project's development will be overseen and managed by an experienced senior software engineer. The hired head of development will then supervise a team of junior engineers responsible for making the interface and infrastructure readily accessible to the user, namely the playback options and the viewing formats.

Furthermore, a marketing director will be responsible for spearheading a campaign promoting Yesteryear's unique take on the cinematic experience. Because the only revenue linked with the application is from the one-time purchase fee, there will need to be a recognition of any financial constraints impeding the maintenance of the application's functionality. Employees will be encouraged to monitor features that significantly add to the development costs to alleviate this risk. At the same time, the marketing team will focus on building the advertisement campaign around the one-time fee of $9.99. Overall, the community of users is expected to reap the breathtaking benefits of Yesteryear at no additional costs, culminating in an organization's feasibility that is **ideal** with **medium risk**.

**Legal Feasibility:**

Yesteryear will closely collaborate with film studios and filmmakers to ratify copyright and intellectual property laws since even the tiniest hint of infringement could have grievous ramifications for the company. Consequently, Yesteryear has pledged to conduct exhaustive legal research by forming a knowledgeable legal counsel, setting the seal on compliance, and attenuating the risk of expensive legal disputes and damaging Yesteryear's reputation. On top of that, Yesteryear holds users' privacy in the highest esteem by firmly depositing information like preferences, playback settings, timestamps, names, and audio languages in a cloud-based storage system with vigorous security measures. With the approach mentioned above, Yesteryear is legally feasible with **low risk**.

**Contractual Feasibility:**

Concerning contractual feasibility, Yesteryear is feasible with very low risk. After comprehensive negotiations, licensing agreements that afford consequential control and ownership rights to Yesteryear LLC have been reached. Yesteryear LLC, the developer and majority owner, will maintain authority over the application's creative direction, which includes choices regarding later amplifications and noteworthy additions. Also, Yesteryear is devoted to supplying unfaltering maintenance and hosting services out of its pocket, securing continual service for users. Over and above that, a systematic profit-sharing agreement has been set, with 45% of profits allotted to stakeholders such as film studios, filmmakers, investors, developers, Apple, and content providers. To shield against the evolving risk of divulgence and competition, a contract of a minimum of four years has been secured, prohibiting Yesteryear LLC from creating an application bearing a likeness to its originator for itself or other clients during this interval. Additionally, provisions in this contract prevent stakeholders from participating in any dialogue with development firms to contribute to the application, ensuring singularity and preserving Yesteryear LLC's ambitions. These contractual agreements allow Yesteryear to be an **exceedingly feasible** endeavor with **minimal contractual risk**.

## Additional Comments:

N/A

## Conclusion:

In conclusion, the feasibility of Yesteryear is **feasible**, and the analysis above confirms the probability of such a claim.

## 4.0: Requirements Definition

## Introduction:

In this section, Yesteryear's functional and non-functional requirements will be defined, as well as the specific features at the application's core. Functional requirements abbreviate the system's crucial functionalities and operations, delineating what the application must or should do to consummate the user's needs. On the other hand, non-functional requirements circumscribe characteristics regarding the system's performance, operation, and overall usability, concentrating on elements beyond the traditional functionality, like reliability, scalability, and user experience.

## Functional Requirements:

1. **User Authentication and Account Management:**

* Users should be able to create accounts and log in securely without looking over their shoulders.
* Yesteryear should be able to support distinct user roles, such as regular users and administrators.
* Users should be able to manage their profiles, i.e., their personal information and preferences, according to their routine.

2. **Content Discovery and Playback:**

* Users should be able to look around and explore the tapestry of films available for playback.
* Yesteryear should prepare a weekly list of recommendations based on the user's preferences and watch history.
* Users should be able to pick and play films, with choices for playback controls such as play, pause, rewind, fast-forward, and save timestamps.
* The application should ensure that the streamed content is in the highest definition with the help of an immersive audio format the caliber of Dolby Atmos.

3. **Virtual Environment Navigation:**

* Users should be able to maneuver within virtual environments using intuitive controls like hand gestures or voice commands.
* The application should give users menus, buttons, and other interactive elements to access numerous features and functions.

4. **Accessibility and Customization:**

* Yesteryear should be accessible to users with different abilities and options to adjust settings like font size, color contrast, audio descriptions/subtitles, and screen size.
* Users should also be able to tailor the viewing experience to their needs, whether adjusting playback settings or creating watchlists.

5. **Offline Viewing and Downloading:**

* Users should have the choice to download films for offline viewing, allowing them to watch content without being connected to the internet.
* Yesteryear should manage downloaded content efficiently, including storage management and download expiry dates.

## Data Requirements:

To ensure the successful development and operation of Yesteryear, the following data requirements must be met:

User Data:

* User profiles (username, email address, password, and preferences).
* Usage metrics (viewing time, session duration, and interaction patterns).
* Personalization preferences (user settings for preferred film formats, audio settings, and film genres).
* User feedback on the application performance and the films with whatever ratings the user decides to bestow upon them.

Content Data:

* Film metadata (detailed information for each film, such as title, director, cast, genre, release date, and format).
* Audio data (metadata for the Dolby Atmos tracks, including language and audio channels.
* Content licensing information (records of licensing agreements, rights, and expiration dates for each piece of content).
* Subtitle files are available in multiple languages for each film to ensure accessibility.

Technical Data:

* System requirements (the hardware and software compatibility specifications with the headset itself).
* Performance metrics (data on the application performance, including load times, frame rates, and error logs).
* Network usage (precise information on bandwidth usage and streaming quality to ensure the best performance).

Compliance data

* Privacy and security (data related to user content, privacy settings, and compliance with data protection regulations like GDPR and CCPA).
* Audit logs (records of user data access and modifications to ensure accountability and security).

## Non-Functional Requirements:

1. **Performance:**

* Yesteryear should load quickly and promptly respond to user commands.
* Playback ability should be polished and unbroken, with minimal buffering or delays for the user.
* Yesteryear should be able to perform at the same rate despite the large number of concurrent users without a notable degradation in performance.

2. **Operationality:**

* Yesteryear will be available to the public by July 31, 2025.
* Hardware will not be necessary to develop the application.
* The only form of payment will be through Apple Pay, and the user will be asked to make that payment when they first initiate the application.
* Yesteryear will only run on the Apple Vision Pro headset.
* The interface shouldn't risk the user's comfort while utilizing the application.

3. **Accessibility:**

* Yesteryear should be accessible to users with disabilities, acting under accessibility standards such as Web Content Accessibility Guidelines.
* Yesteryear should employ features like screen readers, keyboard navigation, and alternative input methods like eye-movement tracers.

## 5.0: Requirements Model

Introduction:

The drawings and complementing documentation for Yesteryear will showcase an overarching overview of its vital use cases, concentrating on essential functionalities like “Create Account,” “Choose Film Format,” “Maximize/Minimize Screen Size,” and “Pre-buffering and Playback.” The following use cases are displayed user-friendly without technical jargon and graphics to strengthen the viewer’s comprehension.

The ”Create Account” use case demonstrates how users can create accounts and log in securely to Yesteryear. This particular use case ensures that users can proficiently manage their user profiles, personal information, and preferences, offering a personalized and secure experience.

The “Pre-buffering and Playback” use case exhibits how pre-buffering saves users from waiting for their film to load. This use case ensures that users can nourish an uninterrupted and immersive cinematic experience by running network checks and user notifications about the buffering status.

The ”Choose Film Format” use case explains how users can choose from the many film formats (IMAX, IMAX 70MM, 70MM, 35MM) for viewing films. This use case makes a point of the user’s ability to personalize their viewing experience based on their preferences, ensuring they can relish their favorite movies in their desired format.

The supporting documentation outlines the normal flow of events, triggers, relationships, and the stakeholders' interests for each use case. Stakeholders, including film studios, filmmakers, investors, developers, Apple, and content providers, are considered to ensure the application’s success and user satisfaction.

By showcasing the information clearly, the provided documentation warrants that even non-technical readers, including customers or end-users, can swiftly make sense of the use cases and their corresponding benefits. This user-focused method accentuates the importance of user satisfaction and system performance, eventually contributing to Yesteryear’s gross success.

Use-Case Diagram:

A diagram of different colored circles

Description automatically generated

Use-Case Descriptions:

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| --- | --- | --- | --- |
| **Use Case Name**: Create Account | | **ID**: UC-1 | **Importance**: Must have |
| **Primary Actor**: User | **Use Case Type**: Detail, Essential | | |
| **Supporting Actors:** | | | |
| **Stakeholders and Interests**:  Users: The users desire a secure and simple way to create accounts for themselves or their family members.  Developers: The Yesteryear developers, behind the scenes, need to make sure that account creation process is effortless and most importantly secure. | | | |
| **Brief Description**: Users are given the opportunity to create an account on Yesteryear to access the features it offers. | | | |
| **Trigger**: The user accesses the Apple Vision Pro headset and opens Yesteryear.  **Type:** External | | | |
| **Relationships**:  **Association**: Connected to user.  **Include**:  **Extend**:  **Generalization**: When a user create an account they are automatically logged in to Yesteryear. | | | |
| **The Normal Flow of Events:**  1. The user opens Yesteryear.  2. The user selects the option “Create Account.”  3. The system then prompts the user to enter required information such as username, email, password, and backup email.  4. The user submits the information.  5. The system then verifies the validity of the information that’s been submitted and creates the account.  6. The system then confirms the creation of the account to the user by letting them know that a confirmation email is in transit. | | | |
| **Sub-flows**:  1a. The user enters invalid information.  - The system displays an error message.  - Return to step three in the normal flow. | | | |
| **Alternate/Exceptional Flows**:  1b. The email is already in use.  - The system notifies the user that the email is already registered with another user.  - The user can then choose between recovering their account or using a different email. | | | |
| **Special Requirements:**   * Securing storage and handling of user credentials. * Confirmation email to verify the user’s email address. | | | |
| **To do/Issues:**   * Ensure compliance with privacy regulations. * Implement sturdy security measures against breakthroughs in terms of data protection. | | | |

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| **Use Case Name**: Choose Film Format | | **ID**: UC-2 | **Importance**: Must have |
| **Primary Actor**: User | **Use Case Type**: Detail, Essential | | |
| **Supporting Actors:** | | | |
| **Stakeholders and Interests**:  Users: The users desire the ability to choose a film format from the options presented to them.  Content Providers: Ensure that the content they’ve provided is correctly displayed in all the offered formats. | | | |
| **Brief Description**: Users are given a set of film formats to choose from (IMAX, IMAX 70MM, 70MM, 35MM) and view their film. | | | |
| **Trigger**: The user decides on a film they wish to watch and is met with a plethora of film options to choose a favorite from.  **Type:** External | | | |
| **Relationships**:  **Association**: Connected to user.  **Include**:  **Extend:** Maximize/minimize screen size and pre-buffering and playback.  **Generalization**: | | | |
| **The Normal Flow of Events:**  1. The user opens Yesteryear.  2. The user maneuvers their way to the film library.  3. The user then selects a film of their liking.  4. The system displays the following film format options: IMAX, IMAX 70MM, 70MM, 35MM.  5. The user selects a format of their choice. | | | |
| **Sub-flows**:  3a. The film of the user’s choice is not available in the desired format.  - The system notifies the user of the unavailability of the film and urges them to select another format.  - The user selects an available format. | | | |
| **Alternate/Exceptional Flows**:  4a. The system fails to display format options.  - The system displays an error message for the user.  - The user can either give the application another try or contact customer support. | | | |
| **Special Requirements:**   * Ensure harmonious transitions and loading times between film formats. * High-quality playback must be orderly maintained across all formats. | | | |
| **To do/Issues:**   * Verify that all format options are available for each film. * Enhance the performance of each format transition. | | | |

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| **Use Case Name**: Maximize/Minimize Screen Size | | **ID**: UC-3 | **Importance**: Must have |
| **Primary Actor**: User | **Use Case Type**: Detail, Essential | | |
| **Supporting Actors:** | | | |
| **Stakeholders and Interests**:  Users: The users demand the ability to control the screen size for a better viewing experience.  Developers: Ensure that Yesteryear’s functionality doesn’t stand in the way of its performance. | | | |
| **Brief Description**: Users are able to adjust the screen size according to their preferences while watching a film. | | | |
| **Trigger**: The user selects a film and the format in which they wish to watch the film, the user can then adjust the screen size to their liking.  **Type:** External | | | |
| **Relationships**:  **Association**: Connected to user.  **Include**: Choose film format.  **Extend**: Pre-buffering and playback.  **Generalization**: | | | |
| **The Normal Flow of Events:**  1. The user begins to watch a film.  2. The user selects the screen size adjustment option.  3. The system displays options to either maximize or minimize the screen size.  4. The user then selects their desired screen size.  5. The system then adjusts the screen size appropriately. | | | |
| **Sub-flows**:  3a. The user aims to adjust the screen size during the buffering stage.  - The system notifies the user of the unavailability of screen adjustment during the buffering stage.  - The user then waits for the buffering to complete. | | | |
| **Alternate/Exceptional Flows**:  4a. The system fails to adjust the screen size.  - The system returns to the original screen size.  - The system proceeds to notify the user of the error. | | | |
| **Special Requirements:**   * A detailed response delivered to user inputs in an instantaneous fashion. * Preserve the visual quality during the size adjustments. | | | |
| **To do/Issues:**   * Test the feature across the different devices. * Ensure that the feature is instinctive and effortless to use. | | | |

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| **Use Case Name**: Pre-buffering and Playback | | **ID**: UC-4 | **Importance**: Must have |
| **Primary Actor**: User | **Use Case Type**: Detail, Essential | | |
| **Supporting Actors:** | | | |
| **Stakeholders and Interests**:  Users: The user wishes for a seamless viewing experience.  Developers: Ensure that Yesteryear does not any issues regarding buffering which in turn contributes to the user’s expectation of a seamless experience. | | | |
| **Brief Description**: Yesteryear conducts a pre-buffering to prevent interruptions during playback. | | | |
| **Trigger**: The user selects a film and the format in which they wish to watch the film, the user can then adjust the screen size to their liking.  **Type:** External | | | |
| **Relationships**:  **Association**: Connected to user.  **Include**: Choose film format.  **Extend**:  **Generalization**: | | | |
| **The Normal Flow of Events:**  1. The user selects a film to watch.  2. The system checks the network connection’s bandwidth.  3. The system initiates the pre-buffering of the film.  4. The user is notified of the buffering states via a graphic resembling a bar.  5. The user decides to either wait or return at a later time.  6. The system finishes buffering.  7. The screen is rid of the buffering bar and begins playing fluidly without any further interruptions. | | | |
| **Sub-flows**:  4a. The user decides to return at a later time.  - The system saves the buffering progress.  - The user exits the film and ultimately the application.  - The system resumes buffering when the user returns. | | | |
| **Alternate/Exceptional Flows**:  3a. The network connection is hindered during the buffering stage.  - The system pauses buffering and notifies the user.  - The system tries again to buffer when the network connection is regained consciousness. | | | |
| **Special Requirements:**   * Apply systematic techniques such as non-blocking I/O to prevent long extensive wait times.. * Set a notification system in place to monitor and display buffering status and options. | | | |
| **To do/Issues:**   * Optimize buffering algorithms. * Test numerous network conditions to ensure dependability. | | | |

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| **Use Case Name**: Offline-Viewing Downloads | | **ID**: UC-5 | **Importance**: Must have |
| **Primary Actor**: User | **Use Case Type**: Detail, Essential | | |
| **Supporting Actors:** | | | |
| **Stakeholders and Interests**:  Users: The user wishes to download their favorite films for offline viewing.  Film Studio: Ensure that the content of the user’s choice be available for a secure download process. | | | |
| **Brief Description**: The user decides to select a set of films they wish to download to view offline. | | | |
| **Trigger**: The user selects a film and the format in which they wish to watch the film then and there but also another time without a network connection.  **Type:** External | | | |
| **Relationships**:  **Association**: Connected to user.  **Include**: Explore films.  **Extend:**  **Generalization**: | | | |
| **The Normal Flow of Events:**  1. The user selects a film to download.  2. The system begins the download process.  3. The user will be shown the download progress using a graphic similar to the bar that accompanies the pre-buffering process.  4. Once the download has concluded, the user is notified by the system. | | | |
| **Sub-flows**:  3a. The user can pause and resume the download they’ve requested.  - The system saves the percentage at which the user has decided to pause.  - The user exits the menu and ultimately the application.  - The system resumes downloading when the user returns. | | | |
| **Alternate/Exceptional Flows**:  3a. Yesteryear suffers an error while downloading the film.  - The system pauses downloading and notifies the user.  - The system tries again to download when the network connection is regained consciousness. | | | |
| **Special Requirements:**   * Ensure downloads are protected by DRM in order to prevent distribution in an unsanctioned manner. | | | |
| **To do/Issues:**   * Optimize the download process for speed and more importantly reliability. * Test numerous scenarios in which a download fails and confront them with algorithms that navigate alternate routes to completion. | | | |

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| **Use Case Name**: Navigate Virtual Environment | | **ID**: UC-6 | **Importance**: Must have |
| **Primary Actor**: User | **Use Case Type**: Detail, Essential | | |
| **Supporting Actors:** | | | |
| **Stakeholders and Interests**:  Users: The user wishes to familiarize themselves with the virtual environment for a better user experience.  Developers: Ensure that the navigation is simple for the user to understand keep up. | | | |
| **Brief Description**: The user wears the Apple Vision Pro Headset and enters the virtual environment. | | | |
| **Trigger**: The user opens Yesteryear and is unfamiliar with the environment.  **Type:** External | | | |
| **Relationships**:  **Association**: Connected to user.  **Include**:  **Extend**:  **Generalization**: | | | |
| **The Normal Flow of Events:**  1. The user enters the environment.  2. The system presents a virtual interface for the user.  3. The user utilizes either motion controls or voice commands to navigate.  4. The system responds promptly to the user’s inputs, maneuvering within the virtual environment. | | | |
| **Sub-flows:** | | | |
| **Alternate/Exceptional Flows**:  4a. The system fails to quickly acknowledge the user’s input.  - The system rectifies the controls.  - The user is cued to retry the action. | | | |
| **Special Requirements:**   * Ensure that there is a high response rate to user inputs. * Seamless transitions and animations that aid the user in their familiarization with the environment. | | | |
| **To do/Issues:**   * Test navigation on several hardware configurations beforehand. * Ensure that there is compatibility with all the features that are presented to the user within the virtual environment. | | | |

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| **Use Case Name**: Explore Films | | **ID**: UC-7 | **Importance**: Must have |
| **Primary Actor**: User | **Use Case Type**: Detail, Essential | | |
| **Supporting Actors:** | | | |
| **Stakeholders and Interests**:  Users: The users wish for a systematic method that allows them to browse and find films.  Content Providers: Ensure that the content they’ve provided is easily discoverable and comprehensible. | | | |
| **Brief Description**: The user can browse the film catalog to explore and choose films to watch. | | | |
| **Trigger**: The user accesses the film catalog in Yesteryear.  **Type:** External | | | |
| **Relationships**:  **Association**: Connected to user.  **Include**:  **Extend**: Offline-viewing downloads and choose film format.  **Generalization**: | | | |
| **The Normal Flow of Events:**  1. The user accesses the film catalog  2. The system displays the collection of available films.  3. The user browses the films with the help of filters and search options to narrow their search.  4. The user selects a film for more info or to watch. | | | |
| **Sub-flows:**  3a. The user applies filters to make the searching process easier.   * The system updates the film list based on the criteria that the user interacted with. | | | |
| **Alternate/Exceptional Flows**:  2a. Not a single film is available.   * The system notifies the user and recommends that they try at a later time. | | | |
| **Special Requirements:**   * Swift and precise search results based on the user’s preferences. * The capability to manage a vast collection of films. | | | |
| **To do/Issues:**   * Optimize database queries for quicker results. * Ensure that the user interface is inherent and receptive. | | | |

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| **Use Case Name**: Manage Profile | | **ID**: UC-8 | **Importance**: Must have |
| **Primary Actor**: User | **Use Case Type**: Detail, Essential | | |
| **Supporting Actors:** | | | |
| **Stakeholders and Interests**:  Users: The user wish for an effortless way to update their personal information and preferences.  Developers: Ensure that profile management is secure and user-friendly. | | | |
| **Brief Description**: The user can update their personal information, preferences, and settings within their profile hub. | | | |
| **Trigger**: The user selects the option to manage their profile.  **Type:** External | | | |
| **Relationships**:  **Association**: Connected to user and administrator.  **Include**: Log In.  **Extend**:  **Generalization**: | | | |
| **The Normal Flow of Events:**  1. The user accesses the profile management section.  2. The system displays the user’s profile information.  3. The user updates their information and preferences.  4. The user saves the changes.  5. The system approves and updates the profile information. | | | |
| **Sub-flows:**  3a. The user decides to upload a new profile picture.   * The system authenticates the image format and, if valid, updates the profile picture. | | | |
| **Alternate/Exceptional Flows**:  4a. The user enters information that proves to be invalid.   * The system displays an error message and asks the user to enter information that is correct. | | | |
| **Special Requirements:**   * Reliable care of the user’s personal information. * Instant reflection of changes in the user’s profile. | | | |
| **To do/Issues:**   * Ensure data validation and security measures. * Test profile management features carefully in the development and trial stages. | | | |

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| **Use Case Name**: Log In | | **ID**: UC-9 | **Importance**: Must have |
| **Primary Actor**: User | **Use Case Type**: Detail, Essential | | |
| **Supporting Actors:** | | | |
| **Stakeholders and Interests**:  Users: The user wishes for a safe and rapid way to access their account.  Developers: Ensure that the log-in process is safe and user-friendly. | | | |
| **Brief Description**: The user can log in to their Yesteryear accounts to access their personalized features. | | | |
| **Trigger**: The user arrives at the log-in screen.  **Type:** External | | | |
| **Relationships**:  **Association**: Connected to user.  **Include:** Create account.  **Extend**: Manage profile.  **Generalization**: | | | |
| **The Normal Flow of Events:**  1. The user accesses the log-in screen.  2. The user enters their username and password.  3. The user submits the log-in information.  4. The system verifies the given credentials.  5. The system permits access to the user’s account. | | | |
| **Sub-flows:** | | | |
| **Alternate/Exceptional Flows**:  4a. The user enters incorrect credentials.   * The system displays an error message and asks the user to retry. | | | |
| **Special Requirements:**   * Reliable care of the user’s log-in credentials. * Quick verification and access. | | | |
| **To do/Issues:**   * Administer robust security measures. * Guarantee swift response times for the log-in process. | | | |

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| **Use Case Name**: Provide Content | | **ID**: UC-10 | **Importance**: Must have |
| **Primary Actor**: User | **Use Case Type**: Detail, Essential | | |
| **Supporting Actors: Film Studio** | | | |
| **Stakeholders and Interests**:  Content Providers: The providers want to make sure that their content is available and correctly formatted on Yesteryear.  Film Studios: Ensure that their films are accessible and presented in the highest of quality. | | | |
| **Brief Description**: Content providers are able to upload and manage their films on Yesteryear. | | | |
| **Trigger**: The content provider access the content management section.  **Type:** External | | | |
| **Relationships**:  **Association**: Connected to content provider and film studio.  **Include:**  **Extend**:  **Generalization**: | | | |
| **The Normal Flow of Events:**  1. The content provider access the content management section.  2. The system displays options to upload and manage content.  3. The content provider uploads new films.  4. The system validates the film format and quality.  5. The content is then made available to the users on Yesteryear. | | | |
| **Sub-flows:** | | | |
| **Alternate/Exceptional Flows**:  3a. The uploaded film fails the format verification stage.   * The system notifies the content provider and asks them to re-upload. | | | |
| **Special Requirements:**   * Ensure compatibility with numerous film formats. * Safe and orderly upload process. | | | |
| **To do/Issues:**   * Administer a verification system for content quality. * Ensure that the upload process is untroubled and errorless. | | | |

## 6.0: System Evolution

Looking into the future, the team behind Yesteryear strives to usher in an era of envelope-pushing enhancements beyond the usual Minimum Viable Product (MVP) to ensure the platform’s growth, scalability, and user satisfaction. A few features waiting in the wings include advanced search and filtering capabilities, enhanced social features like user groups and live chat, interactive timelines and maps, and machine learning-driven content personalization. In addition, specific tools involving collaboration for shared memories and native mobile applications with offline functionalities are anticipated to soon come to fruition. On the hardware side of the park, upgrades will mainly require supplementary servers along with high-performance computing infrastructure. In contrast, software upgrades will transition to a microservices architecture and put CI/CD pipelines into practice. Security improvements will revolve around multi-factor authentication and state-of-the-art encryption, and performance maximization will concentrate on database competence and content delivery networks. Lastly, interim user feedback will shepherd UI/UX augmentations and the development of accessibility features, ensuring Yesteryear blossoms into a prosperous, user-oriented platform.

## 7.0: Conclusions and Recommendations

N/A

## Appendices

N/A

## Glossary

IOS: The operating system utilized by Apple devices.

IMAX: A film format renowned for its larger-than-life screen size and pristine picture quality.

Dolby Atmos: An immersive sound format that channels sound through three dimensions.

Content Rating Requirements: Guidelines put in motion to allocate and rate content (films or video games) based on age appropriateness, content themes, and potential impact.

Augmented Reality: A technology that blends virtual objects into the fold of reality, commonly experienced through a smartphone or an AR headset.

Virtual Reality: A technology that places the user in a simulated environment, commonly used in a VR headset to provide a 3D visual experience.

Regulatory Compliance: Compliance with laws, regulations, and standards imposed by governmental authorities of regulatory bodies, securing that the product or service meets pertinent laws and industry guidelines.

## Bibliography

The notes and lectures presented in the course CSC 3150 by Professor Cameron were used as a guide, tool, and reference for any need for clarity.