

# Software Requirements Specification

## **Geekd**

- Gamer hub

**Group 2**

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# 1 Introduction

## 1.1 Purpose

The purpose of Geekd is to provide like minded individuals with an online locale that allows them to interact with, view, and create content related to their interests. These individuals will become users and will be allowed to create accounts to access more site material. Users will be able to share and search content on the site. In addition, the site will offer users the ability to create and manage their own original content.

### 1.1.1 The site will accomplish the following goals

- Create an online community for gamers
- Provide a place to view and create original content
- Create promotion for new products

### 1.1.2 The site will accomplish the previously listed goals by

- Allow users to create accounts
- Allow users to participate in forums with their accounts
- Users will have tools that will allow them to comment on reviews
- Users will have tools that will allow them to create their own reviews
- Provide ad space for promotions

## 1.2 Scope

### 1.2.1 Included in the product will be

- Search engine
- News/RSS feed
- Guides/Walkthroughs
- Reviews
- Forums/Discussions
- Support

(Mention out of scope sections)

### 1.3 Definitions, acronyms, and abbreviations

Term	Definition
User	Someone who interacts with the website
Admin/Administrator	System administrator that is given permission for managing and controlling the system
Thread	Created when a user creates a new post on the message board. Results in a new entry to the database that can branch into other threads.
Tag	Created by both users and admins but only approved by admins. This allows content to become searchable by specific terms. When a user or admin uses the search function, the terms in the search bar will first compare terms against tagged content.
Review	User or admin generated document that can be modified and approved by administrators and meant to be viewed by all parties using the website
Walkthrough	User or admin generated document that can be modified and approved by administrators and meant to be viewed by all parties using the website
Validation	The system will validate information by comparing it to its database as well as checks to ensure that items such as password length and uniqueness are correct

### 1.4 References

**Pressman, Roger S., and Bruce R. Maxim. *Software Engineering: A Practitioner's Approach*. 8th ed. New York: McGraw-Hill Education, 2015. Print.**

### 1.5 Overview

The remainder of the SRS will feature the following: a Project Description, the Functional Requirements of all components, Non-functional Requirements, and then Appendices. These sections are ordered as previously listed.

The Project Description is organized into product perspective, product functions, user characteristics, constraints, as well as assumptions and dependencies.

The Functional Requirements will feature a section dedicated to each individual module. Each module will feature the following: Use Case Diagrams, Use Case Description, Behavior Requirements, System Models.

The Non-functional Requirements section will go over requirements of the system. These may include but are not limited to: Performance Requirements and Dependability Requirements.

The Appendices section will feature supplementary material.

## **2 Project Description**

This section provides an overview of the whole system. The explanation provided will demonstrate the basic functionality of the Geekd website. In the final portion of this section the constraints and assumptions will be presented.

### **2.1 Product Perspective**

This product is intended for use through the web. The system implementation will be deployed via client-server model. Geekd will provide users with a portal that will allow for the viewing and modification of site content. However, a user will be separated from an administrator through the use of a login. The administrators will be given a set of tools that will allow them to modify and evaluate content. Users will also be provided with a set of limited to tools for posting and modifying their self created content.

Since there will be a section for reviews, use of a search engine, as well as a the creation and management of users, there will be a need to store data. A database will be implemented for these purposes as well as others. All database communication will be conducted over the internet.

### **2.2 Product Functions**

- Multiple browser support: Geekd will operate and function with Chrome, Edge, Firefox, and Safari.
- User accounts: The system will allow users to create accounts and offer subsequent features according to authorization
- Total users supported by server: The number is not currently available but should allow for a large amount of users to be online at concurrent times to allow for availability.
- Search: the search engine will provide local results based on keywords.
- Forums: the forums will provide users with a place for discussion.

- Support: the support function will allow users to reset passwords and address other administrative issues as well as problems with other users.

### **2.3 User Characteristics**

There will be two basic users that will interact with the site: users of the site and administrators. Each of these users has different type of access and tools that will be used to operate the site.

The user should have basic knowledge of the internet as well as access to it. Users will be able to make accounts to interact with the site. They will be able to search the site for content through search terms relevant to their query. In addition, site navigation will be conducted by the users in order to view content.

The administrator is expected to be familiar with the administrator interface as well as tech support. This is in the event of a facilitating or confirming a change to content on the site. Administrators will be responsible for managing information on the site as well as adjusting the look and feel of the site.

### **2.4 Constraints**

The internet is a constraint for the site. The site will fetch data from a database over the internet, therefore it is crucial that there is a functioning connection to the internet for the site to function.

There may come a point in time when the database could become strained by the amount of incoming requests. This is dependent on the amount of users accessing content on the site at a given time and may not be a concern during the initial startup phase of the site.

### **2.5 Assumptions and Dependencies**

The system depends on browsers using HTML5 standards. Therefore it may be difficult to provide support for legacy Internet Explorer browsers as well as browsers that have not been updated to current standards.

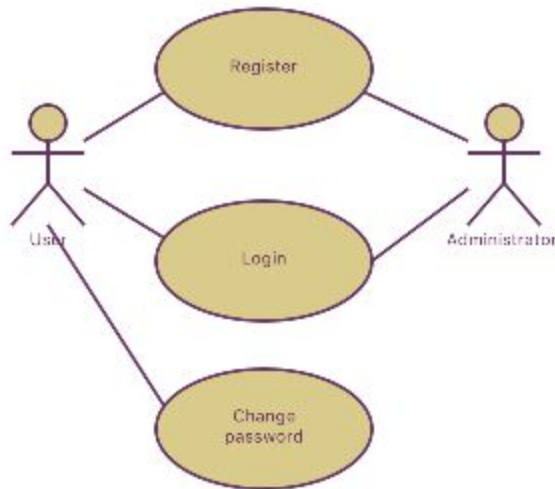


## 3 Functional Requirements

### 3.1 Login/Registration

#### 3.1.1 Use Case Scenario

Any user of the site should be able to self-register with Geekd to access additional services and content. Registration is only required once and is performed by the user or an administrator. Administrator's will be allowed greater privileges than users and can only be assigned by the system.



#### 3.1.2 Use Case Description

##### Scenario (1) Registration

Any individual accessing the site can be allowed to sign up for a free account

Users will register with the site by submitting a username, a password, and a valid email address.

Both the username and email address must be unique and not exist in the database previous to activation

The site will validate all new registration with email authentication and confirmation

If a username or email are already registered on the site, a message will be sent to the user to use a different username or email

If a user inputs an invalid password the system will not allow registration to complete until the necessary benchmarks are hit

### **Scenario (2) Login**

If a user or admin has valid login credentials they will be allowed to login

Registered users will input their credentials

The system will validate their data against the stored uses

If credentials match the user, the system will grant access and direct users to the homepage

If the credentials are incorrect, the system will return an error message and request that the user retry

### **Scenario (3) Change Password**

Users and admins that are logged in can access a function to change their password

When prompted the user enters their current password and a new password

The submits the data

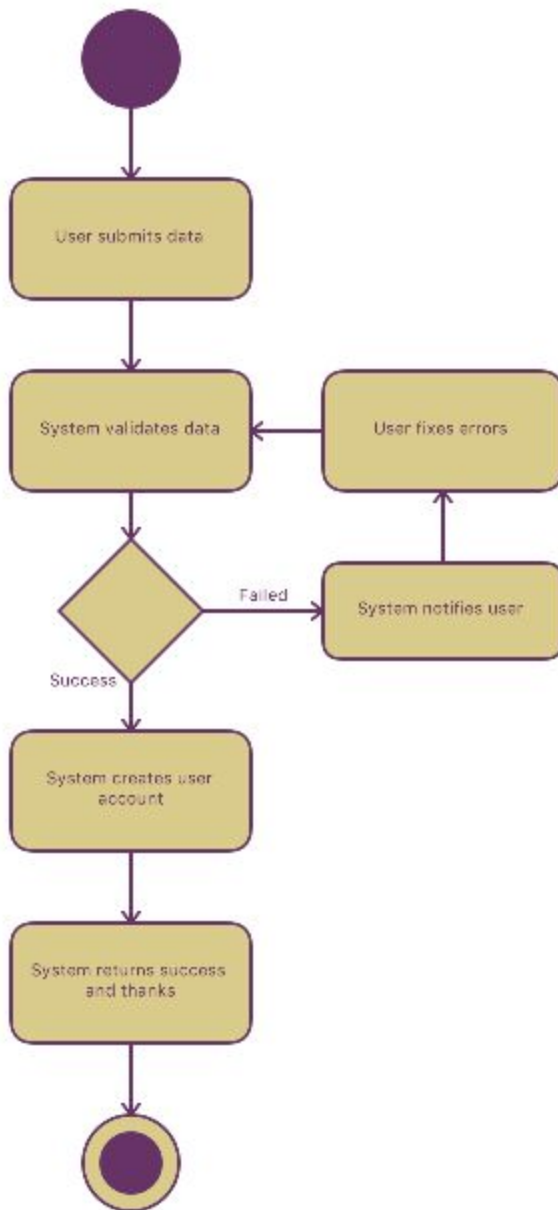
The system validates the original password and the new password for appropriate requirements

If the current password is valid, the system changes to the new password

If the current password is invalid, the system requests the user to try again

### 3.1.3 Behavior Models

#### Scenario (1) Registration



The user will be access a dialogue option on the site.

After filling out a form with a unique username and password the user or admin will also provide a case sensitive password that must pass validation

#### On success

If all factors are correct the system will create an account that will grant a user or admin access

The system will return a message saying that the user has successfully created an account as well as a thank you message

#### On failure

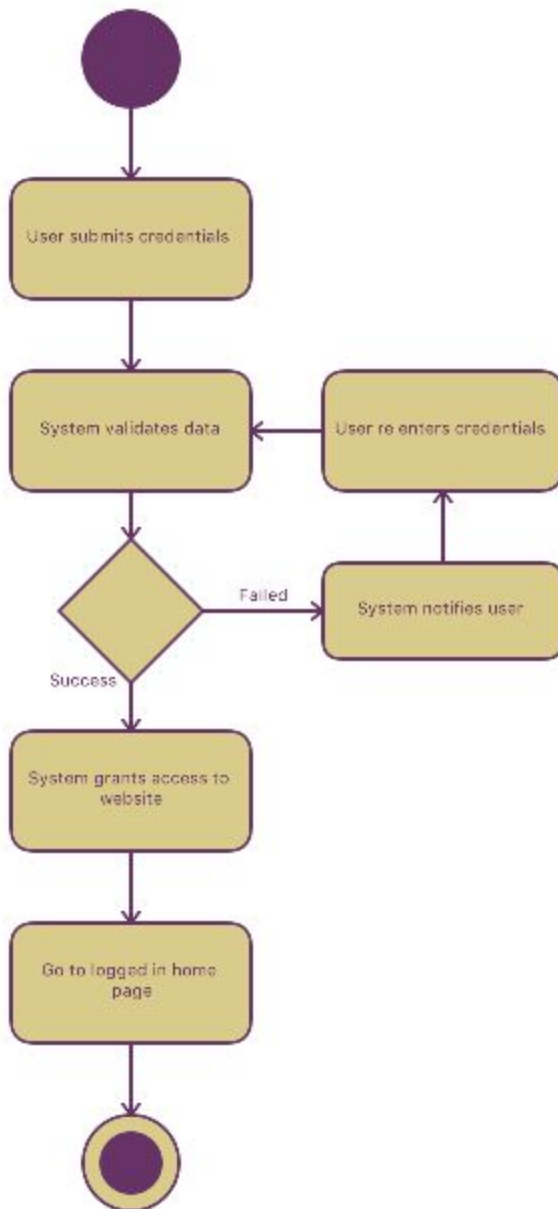
If one of the factors that the system must validate are incorrect the system will not allow the user or admin to create an account

The system will then notify the user which factors need to be adjusted: such as a

**username or email being occupied or a  
password being invalid**

**When the user fixes the errors the system  
will again check factors for validation**

**Scenario (2) Login**



The user or admin will access a dialogue option on the site to login to the site

The user will enter credentials and submit them for validation

### On success

If all factors are correct the system will grant a user or admin access

The system will redirect the user or admin to the appropriate homepage for their level of access

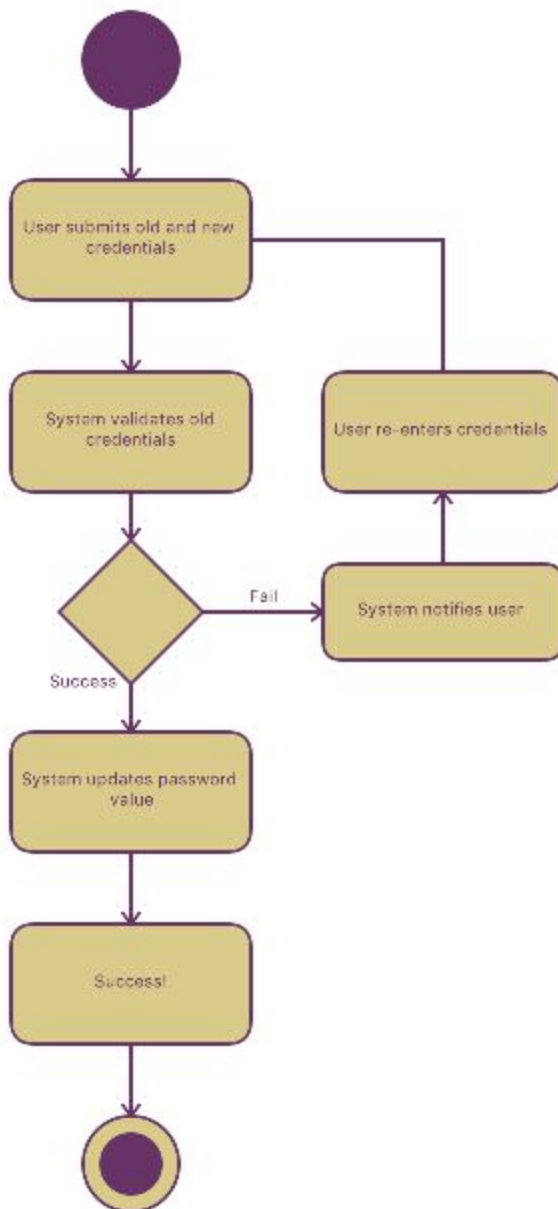
### On failure

If one of the factors that the system must validate are incorrect the system will not allow the user or admin access to the site

The system will then notify the user or admin that their credentials are incorrect. The system will not tell the user or admin which credentials are incorrect.

When the user fixes the errors the system will again check factors for validation

### Scenario (3) Change Password



When the user or admin is logged in they will have the ability to change their current password

The user or admin will submit their old credentials as well as their new credentials

#### On success

If the old credentials are valid and the new credentials pass a validation check the system will update the password value

The system will inform the user that the change was a success

#### On failure

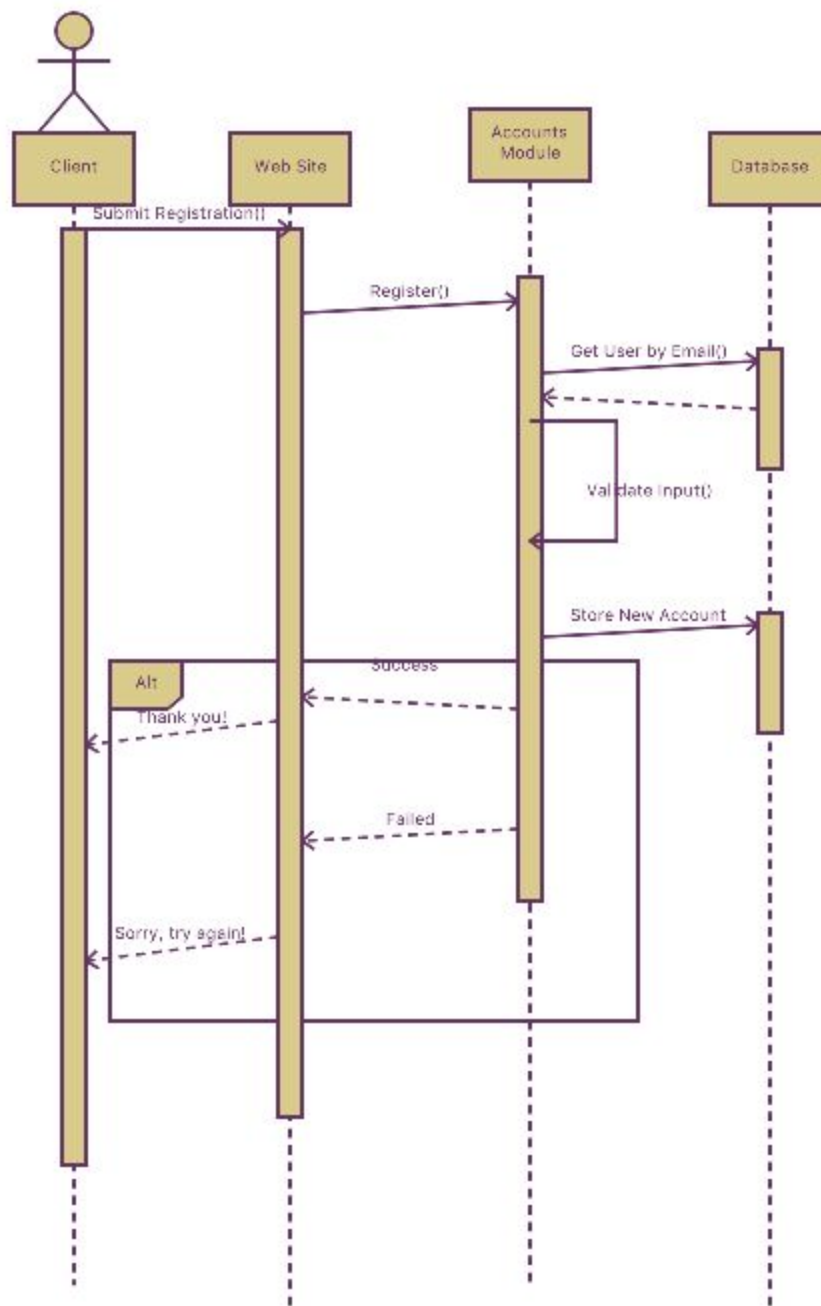
If one of the factors that the system must validate are incorrect, such as the old credentials, the system will not update the password

The system will then notify the user or admin that their credentials are incorrect or the new password is invalid. The system will tell the user which field needs to be changed.

When the user fixes the errors the system will again check factors for validation

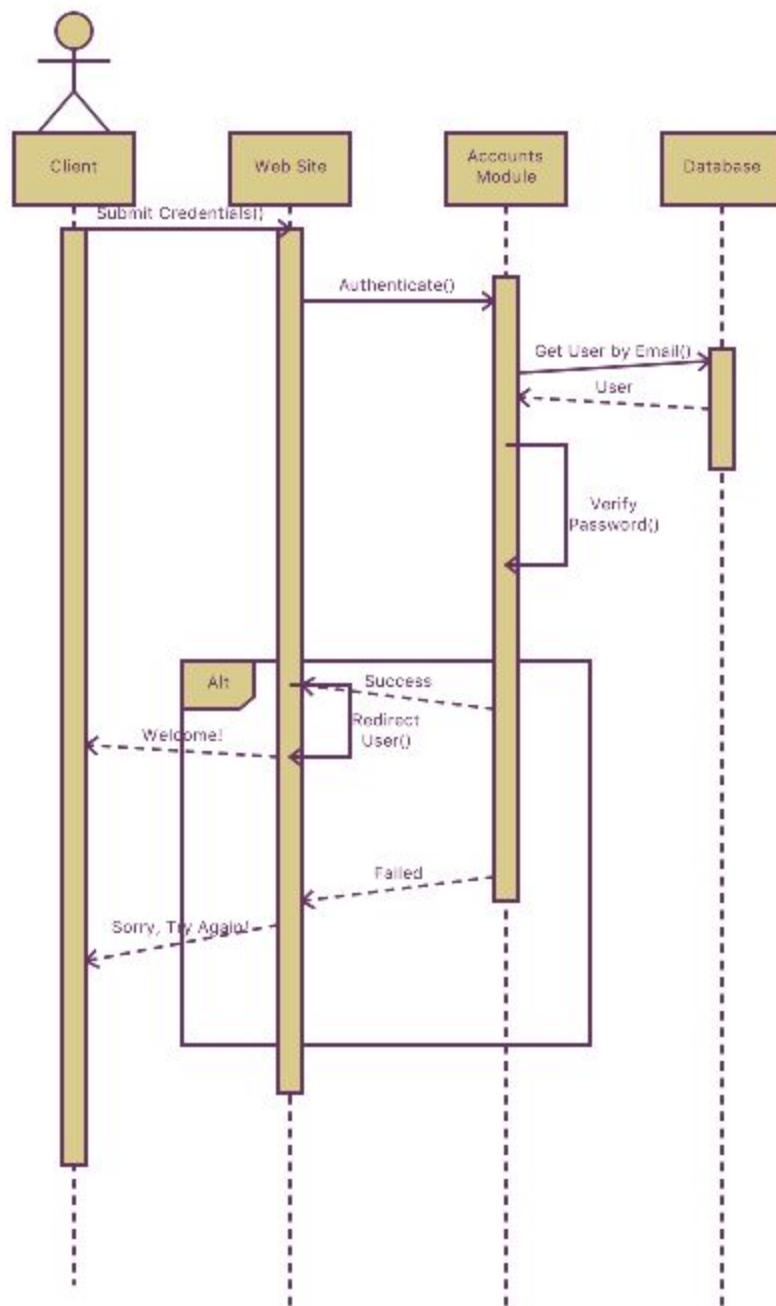
#### 3.1.4 System Models

**Scenario (1):** The following data flow diagram illustrates validation and failure of new user or admin entry into the database system.

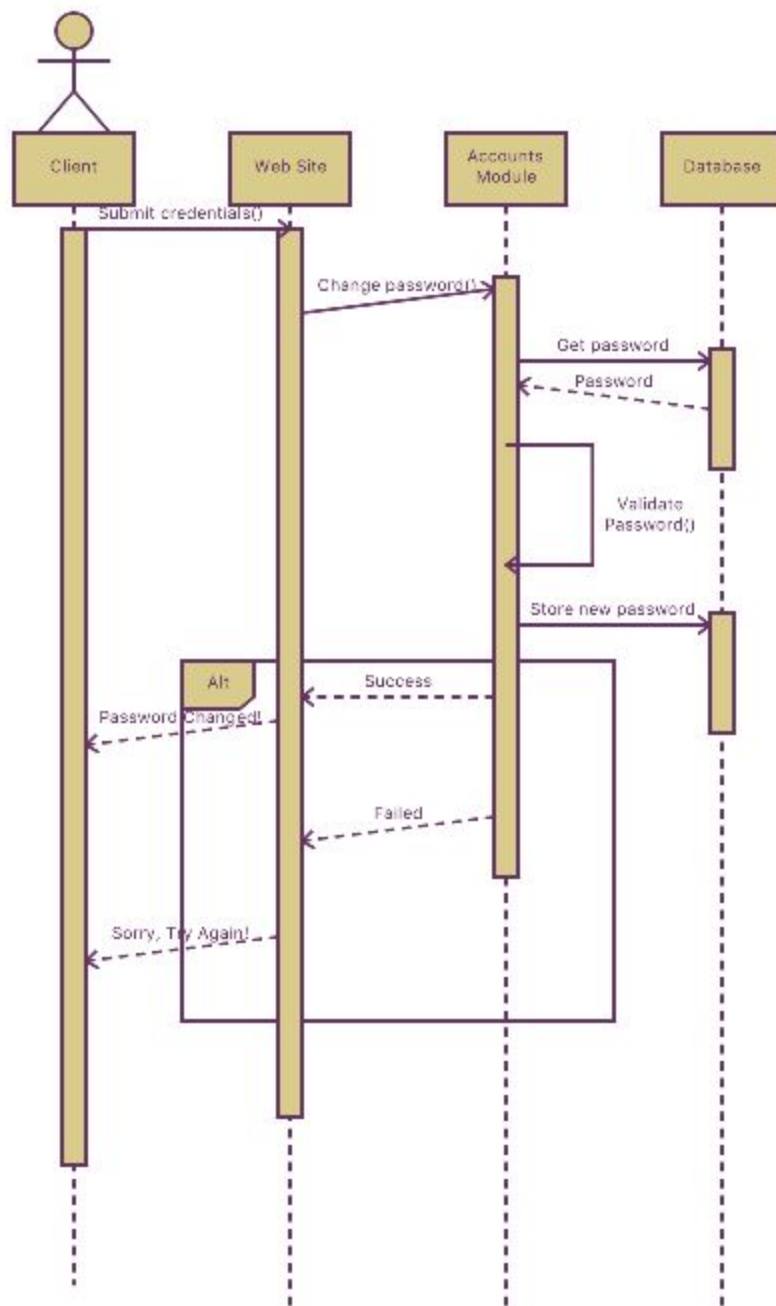


**Scenario (2):** The following data flow diagram illustrates user or admin validation and failure when logging in to use the site.





**Scenario (3):** The following data flow diagram illustrates user or admin validation and failure when attempting to change their password.

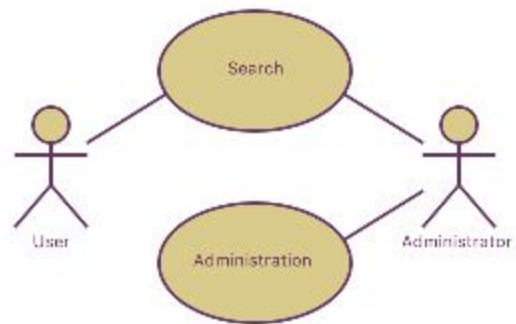


## 3.2 Search

### 3.2.1 Use Case Scenario

The main page and all subsequent pages of the site will contain a dialogue box that will offer users the ability to search the contents of the website. Users will input words into the dialogue box and hit enter to send the query to the server. The server will compare the words and compare them against terms in the SQL database. If the database finds hits on the search the server will return the results. The site will then display the results ordered chronologically. The user can then sort results by category, relevance, and again by date if the state of the organization has been altered.

In order for the search function to operate properly it will rely on the administrators for additional functionality. The administrator will be allowed a set of permissions that allow them to input associated tags that will result in more relevant searches. These tags can be placed on reviews, walkthroughs, and other content. Approved tags can also be used by users to tag content as well. This way both administrators and users are able to make content more searchable.



### 3.2.2 Use Description

#### Scenario (1) Search

User inputs words into search box

The site sends the query to search the terms against the database

The site retrieves the results

The results are displayed and sorted by relevance

The user can change the sorting selection through the use of dialogue options

When the user selects date: the results will be sorted chronologically from most recent to least

When the user selects category: the results will be sorted categorically in alphabetical order

When the user selects relevance: the results will be sorted by most relevant to least, this will not change the results if selecting this option after the initial search is done

### **Scenario (2) Search Failure**

User inputs words into search box

The site sends the query to search the terms against the database

In this scenario the site is unable to find relevant results

The database returns nothing

The site then displays an apology message to the user

The site also asks the user to try different words or a different combination

### **Scenario (3) Add Tags**

Administrator accesses special privileges

Admin accessess review or walkthrough page

From this page admin is able to add specific tags to content

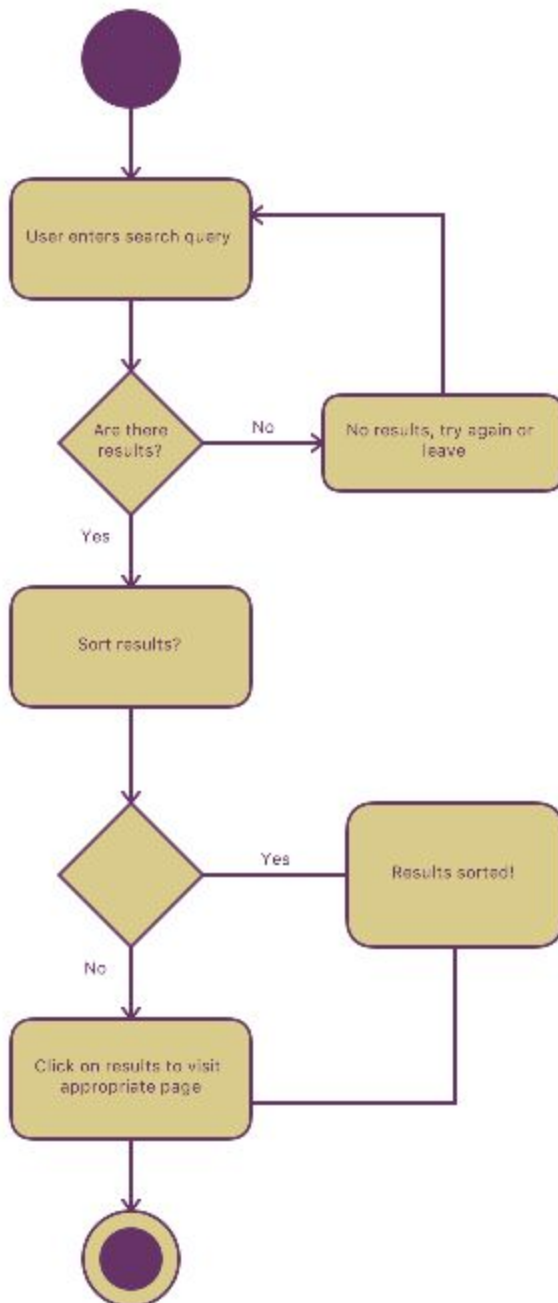
Tags will allow certain sets of data to become more searchable by the search engine

Users will also be able to use tags on their own content

Only tags that have been approved by administrators can be used by users

### 3.2.3 Behavior Models

#### Scenario (1) and (2)



The user or admin will input terms into a dialogue box located on all pages of the site

The user or admin will submit the results for query

#### On success

If the database is able to find matching tags and terms the system will return results.

The returned results will appear in order of relevance. The user or admin can then apply different ordering methods on the results.

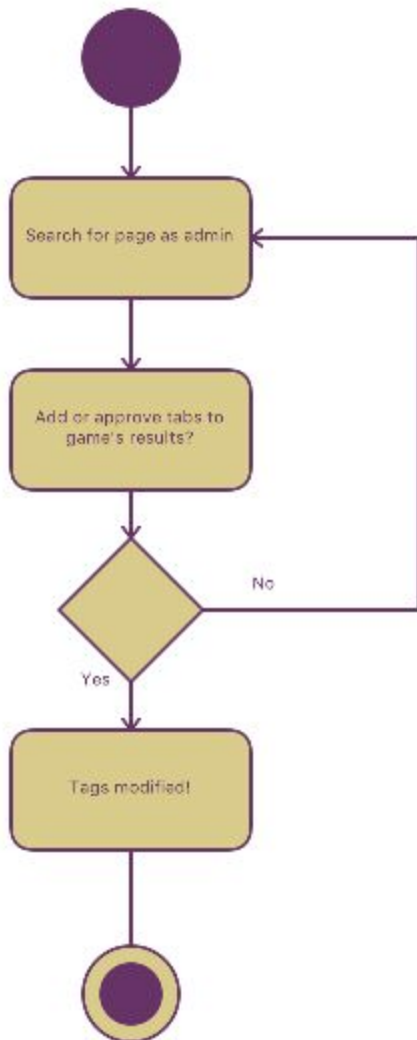
The user or admin will then visit the link of their choice

#### On failure

If the database is unable to find matching tags or terms the system will return nothing

When nothing is returned the system will prompt the user or admin with a message asking them to try a search with different terms

### Scenario (3)



When the admin is visiting a page they will be capable of adding a tag to the page

When the admin searches a page and a new tag has been added to a page the admin can approve its use for the system

#### On success

If the admin approves the tag then it will be added to the system database for official use

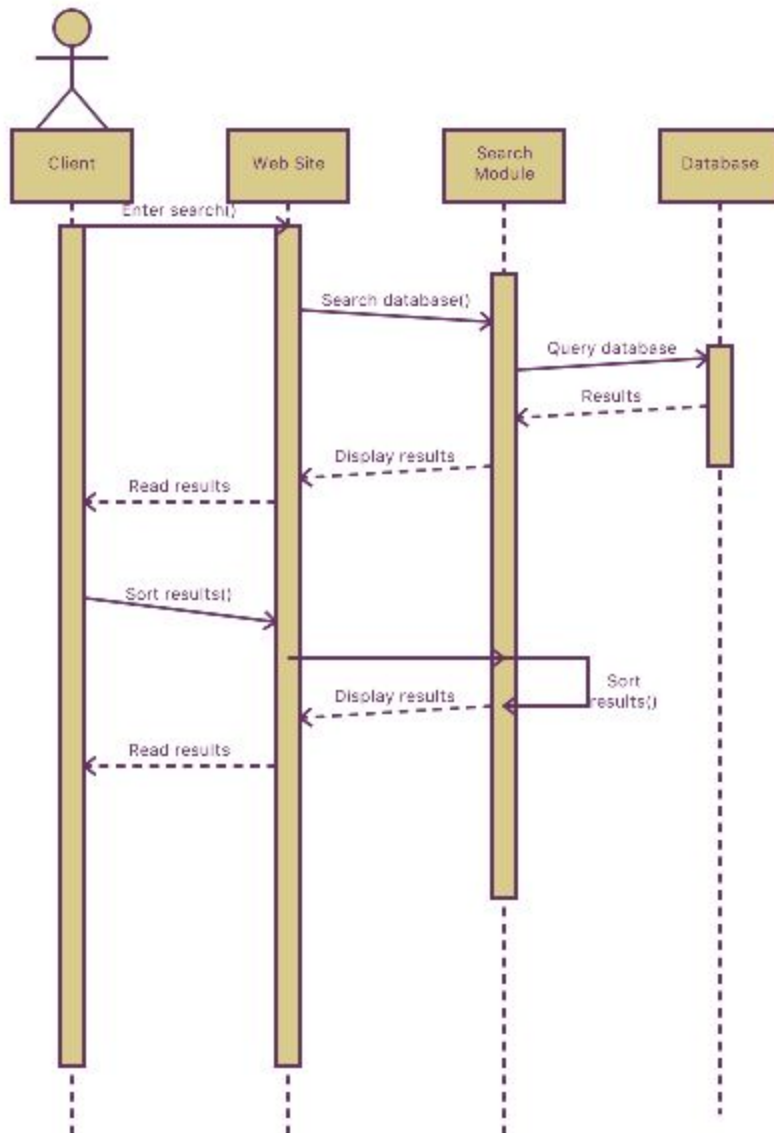
The tags in the database will be modified

#### On failure

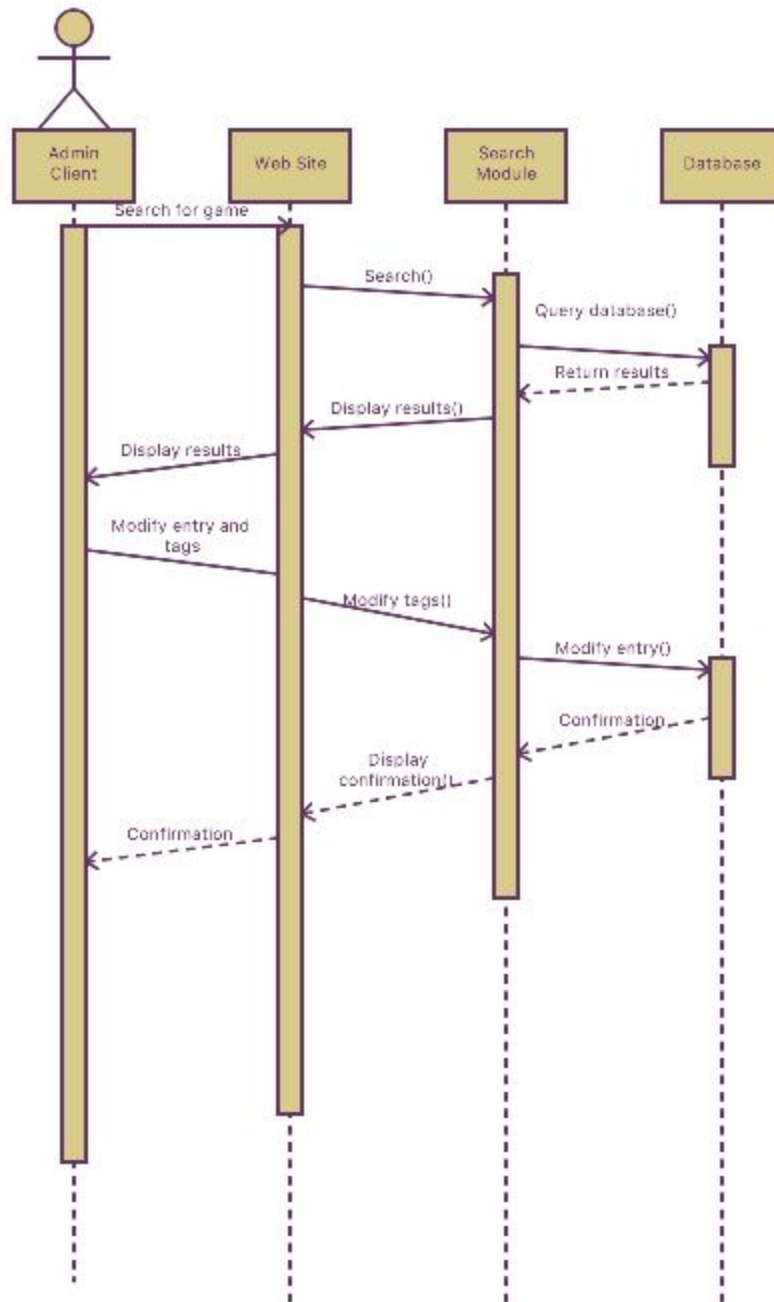
If the admin disapproves the use of a tag it will not be approved for use and be removed from the system

### 3.1.4 System Models

**Scenario (1):** The following data flow diagram illustrates user or admin use of the search function and the system's interaction with the database



**Scenario (2):** The following data flow diagram illustrates an admin adding tags for use in the search function.

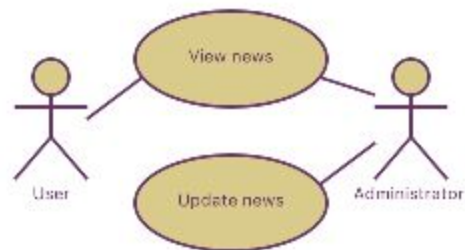




### 3.3 News

#### 3.2.1 Use Case Scenario

The main page of Geekd will display a series of news stories. Each will feature a small blurb as well as a relevant thumbnail image and title. The user or admin will be able to click on any of these features of the new item and be taken to the appropriate page.



In addition, admin members will be capable of updating news articles. Admin members will have access to tools that allow them write articles, as well as edit previously posted articles. These articles will be posted to the main home page of the site and will be listed chronologically.

#### 3.3.2 Use Description

##### Scenario (1) News Article

When the user or admin arrives on the main home page articles will be displayed

These articles will be ordered in chronological order

The user or admin will then click on an article and be redirected to the appropriate page

##### Scenario (2) Add News Article

Admin will write or edit articles through admin tools

These articles will be updated via the database

When posted, the articles will appear on the homepage

### 3.3.3 Behavior Models

#### Scenario (1)



The user or admin will arrive at the main page

The user or admin will be able to select an article

#### On success

If the link loads properly the user or admin will be taken to the appropriate page

#### On failure

If the link is void or the database hasn't been properly updated, the user or admin will be unable to read the chosen article until it has been properly updated

## Scenario (2)



**Admin will arrive at the administrator tool portal**

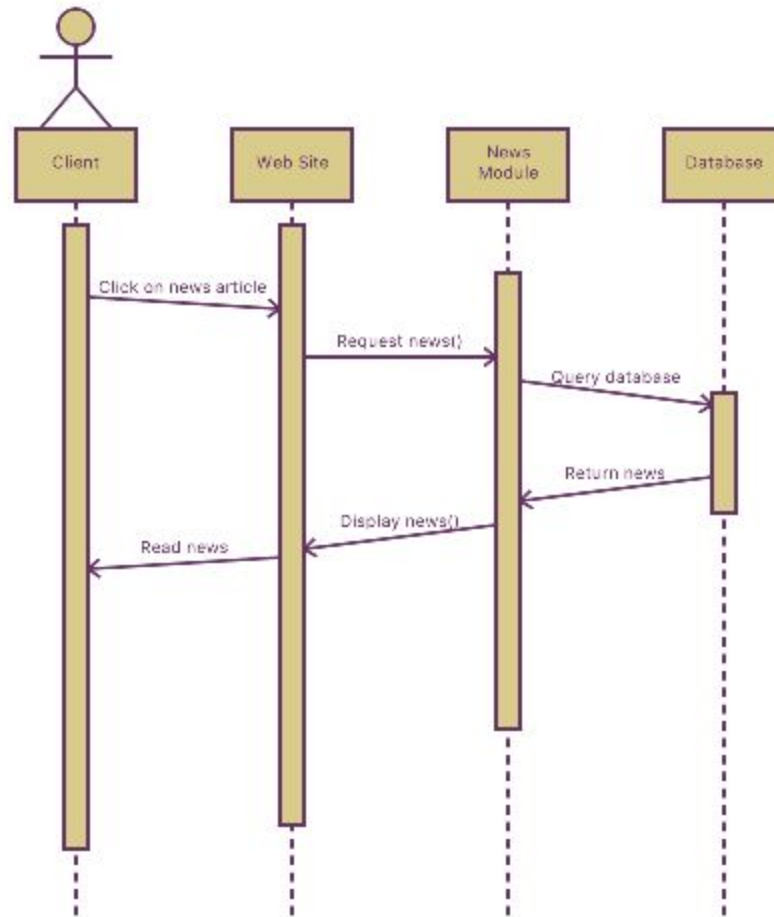
**The admin will have access to tools that allow them to edit or create new articles**

### **On success**

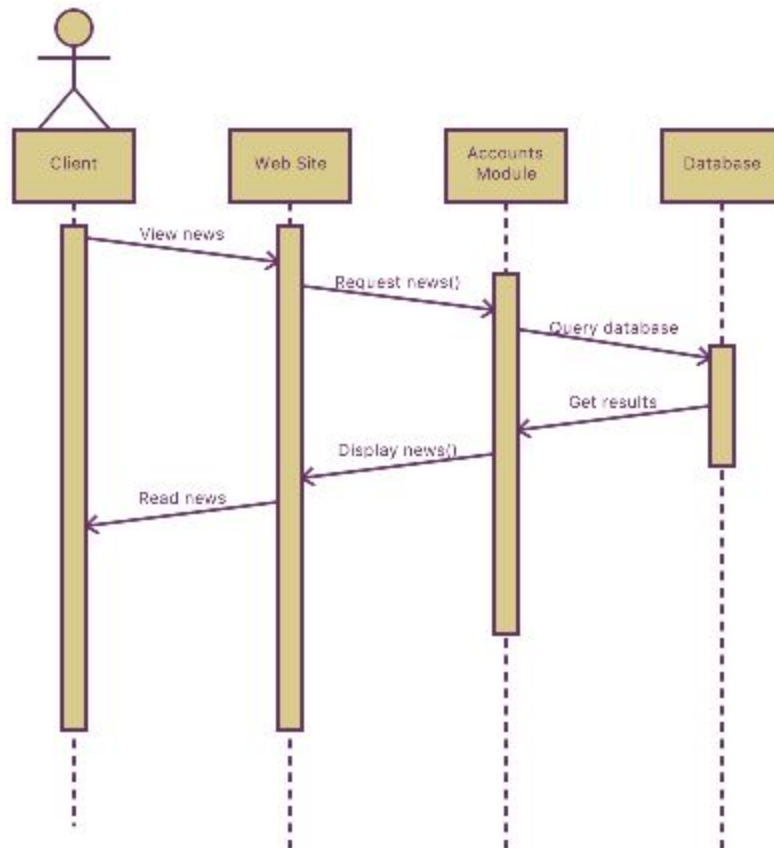
**The admin posts the article, the article will appear on the main page of the site**

### 3.3.4 System Models

**Scenario (1):** The following data flow diagram illustrates a user or admin viewing and then selecting a article for reading.



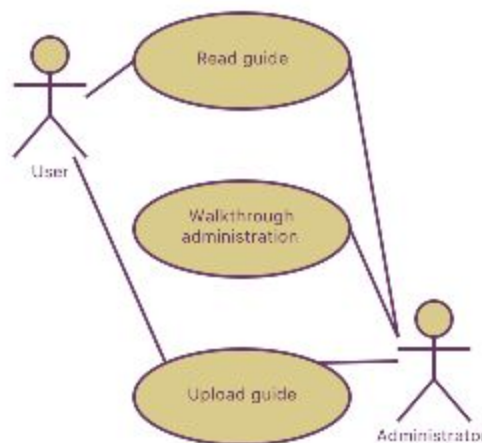
**Scenario (2):** The following data flow diagram illustrates an admin adding tags for use in the search function.



## 3.4 Guides/Walkthroughs

### 3.4.1 Use Case Scenario

Registered users, unregistered users, and administrators will be allowed to view submitted guides and videos. Registered users will be able to submit their own written guides or videos to the site for inclusion. Administrators shall be allowed the privilege to approve and arrange guides and videos for display, based upon community feedback



from the forums.

### 3.4.2 Use Description

#### Scenario (1)

Upon arrival at the game's page on the site, the main walkthrough for the game shall be displayed by default

Guides are text-based HTML documents, possibly with embedded picture or movies

If a more specialized walkthrough or strategy guide is available, these may be selected

There also shall be links to the forums page for this game to discuss things further

#### Scenario (2)

Upon arrival at the game's page on the site, the main walkthrough for the game shall be displayed by default

If a user has another guide they think will be suitable for the site, they can attempt to submit it on this page

They will be prompted to sign into their account to be able to upload to the site

If they are signed in, they may post their guide, subject to Administrator approval

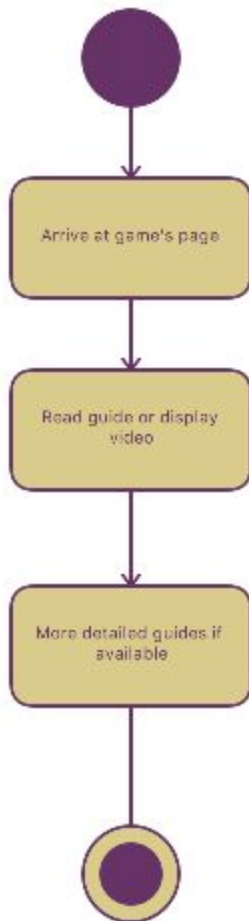
If guide is approved, it will be added as appropriate to the viewable items for this game

### **Scenario (3)**

Administrators can rearrange the organization of the displayed guides in response to community and other feedback, by choosing which guide is displayed by default, and which guides are available for viewing

### 3.4.3 Behavior Models

#### Scenario (1)



The user or admin will select a game from a list of available published games

The user or admin will arrive at the game's main page

#### On success

Links will be available that will provide guides to the user or admin

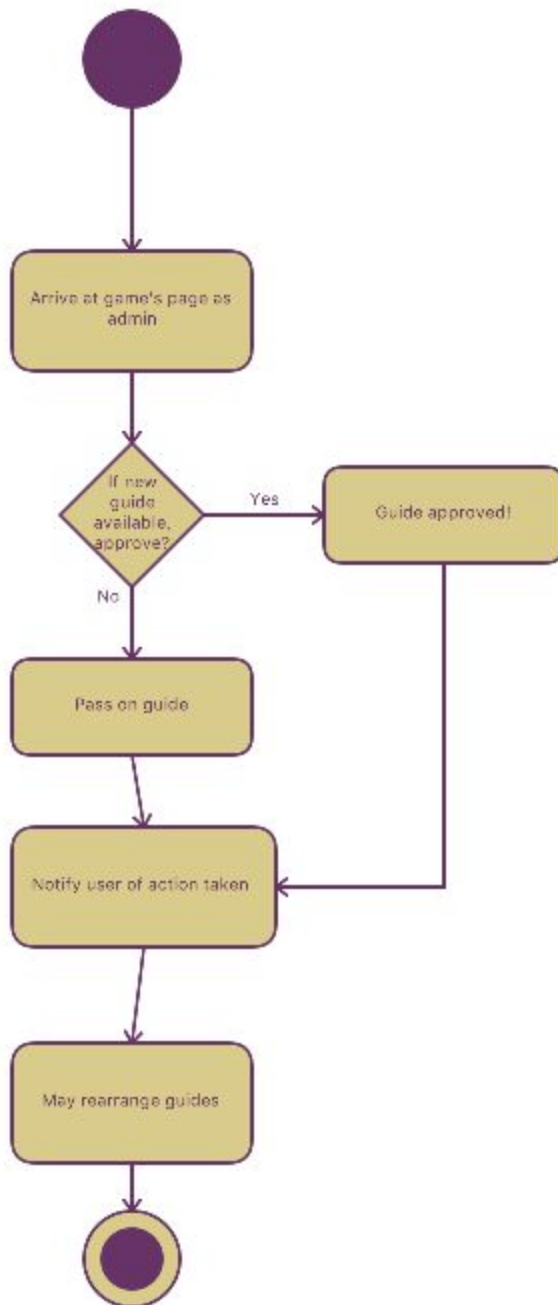
If available, more detailed guides will also be provided

#### On failure

If a game is too new or too obscure a guide may not always be available



## Scenario (2)



Administrators will be notified of pending changes to a guide

When an admin arrives at a game's page they will be shown the pending changes

### On success

If the admin approves the guide, it will be added to the pool of guides for the game

When it has been added to the database the system will notify the user of a the approval of their guide

In addition, the admin may rearrange the guides as they see fit

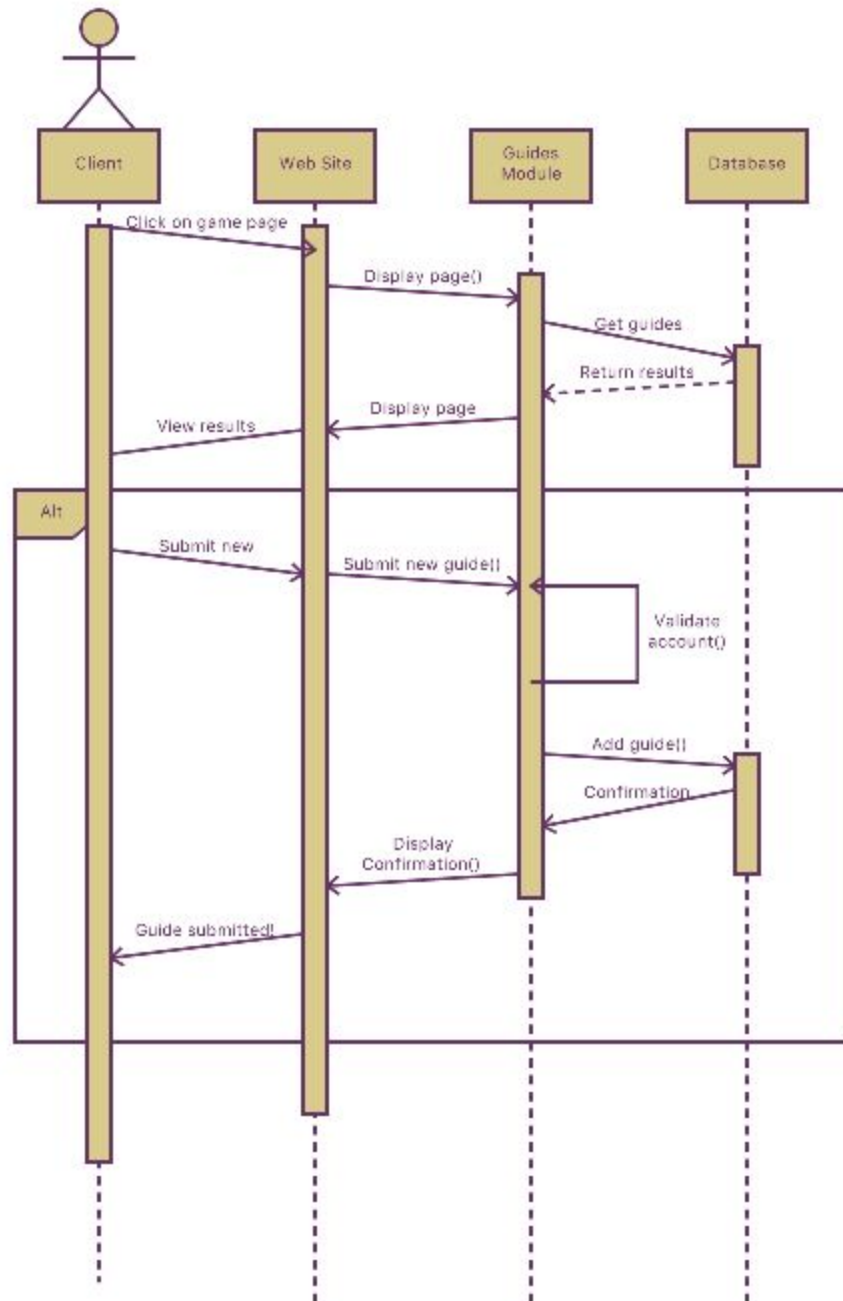
### On failure

If the admin disapproves of the guide the guide will not be added

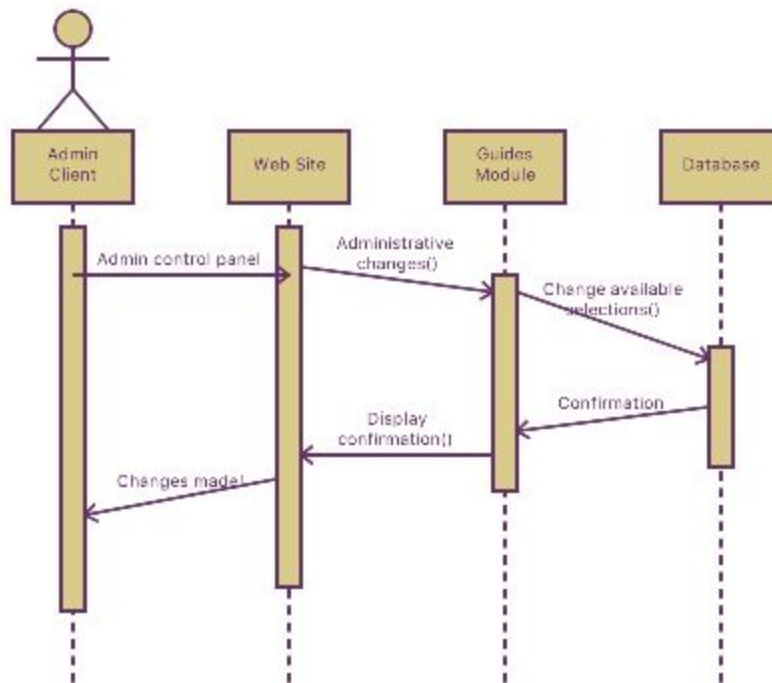
When the guide has been denied approval the system will notify the user that the guide has not been approved

### 3.4.4 System Models

Scenario (1) and (2): The following data flow diagram illustrates a user viewing guides. An alternative option is when the user submits their original guide for approval. Approval will be given by members of administration.



**Scenario (3):** The following data flow diagram illustrates a administrator approving of a guide. Confirmation must reach the database in order to reflect changes on the site.



## 3.5 Reviews

### 3.5.1 Use Case Scenario

For the reviews section users will be allowed to generate original content pending review from the admin group.

Users will be allowed to view submitted reviews. These will be listed on a page and users will click on their choice, and the site will respond by directing them to the appropriate page. Users will also have the ability to post original reviews if they are registered with the site.

Admin members will be notified of pending reviews when they arrive at their portals. Reviews will be approved by the admin group pending community feedback on the review.

### 3.5.2 Use Description

#### Scenario(1)

User accesses site, login is not required to view reviews

User navigates to the reviews section of the site

The reviews section organized chronologically

Add review option available but only accessible by registered users

If user clicks on option, prompt user for access or registration

#### Scenario(2)

User accesses site

User uses login credentials to access user features

User navigates to reviews section of the site

The reviews section organized chronologically

Add review option available and accessible

If user is logged in, new page opens to allow user to post review

When review is posted the server will return a message if post is successful and has been added to the database

If post is not successful, the page will prompt user to resend

### **Scenario(3)**

Admin accesses site

Admin uses credentials to login to access admin features

Admin will review pending posts and requests in dialogue feature

In the reviews section of the dialogue feature, the site will display reviews pending auditing and approval

If admin approves review, review will be published to web

If admin denies approval, a message will be sent to user that published the review

### 3.5.3 Behavior Models

#### Scenario (1)



**A user or visitor will arrive at a game's page**

**The user or visitor can click on the review section of the game's page**

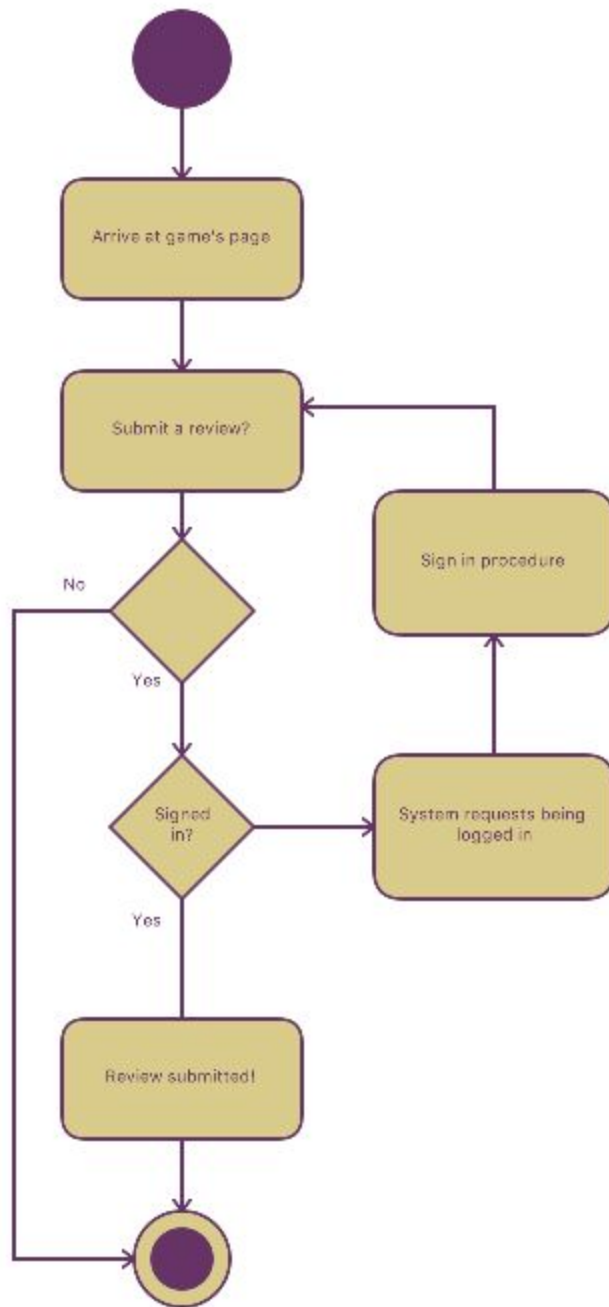
#### **On success**

**If a review is available the user will be directed to appropriate page**

#### **On failure**

**If a game is too new or too obscure a review may not always be available**

## Scenario (2)



A user or visitor will arrive at a game's page

The user can choose to add a review

### On success

If a user is signed in they will be allowed to submit their review

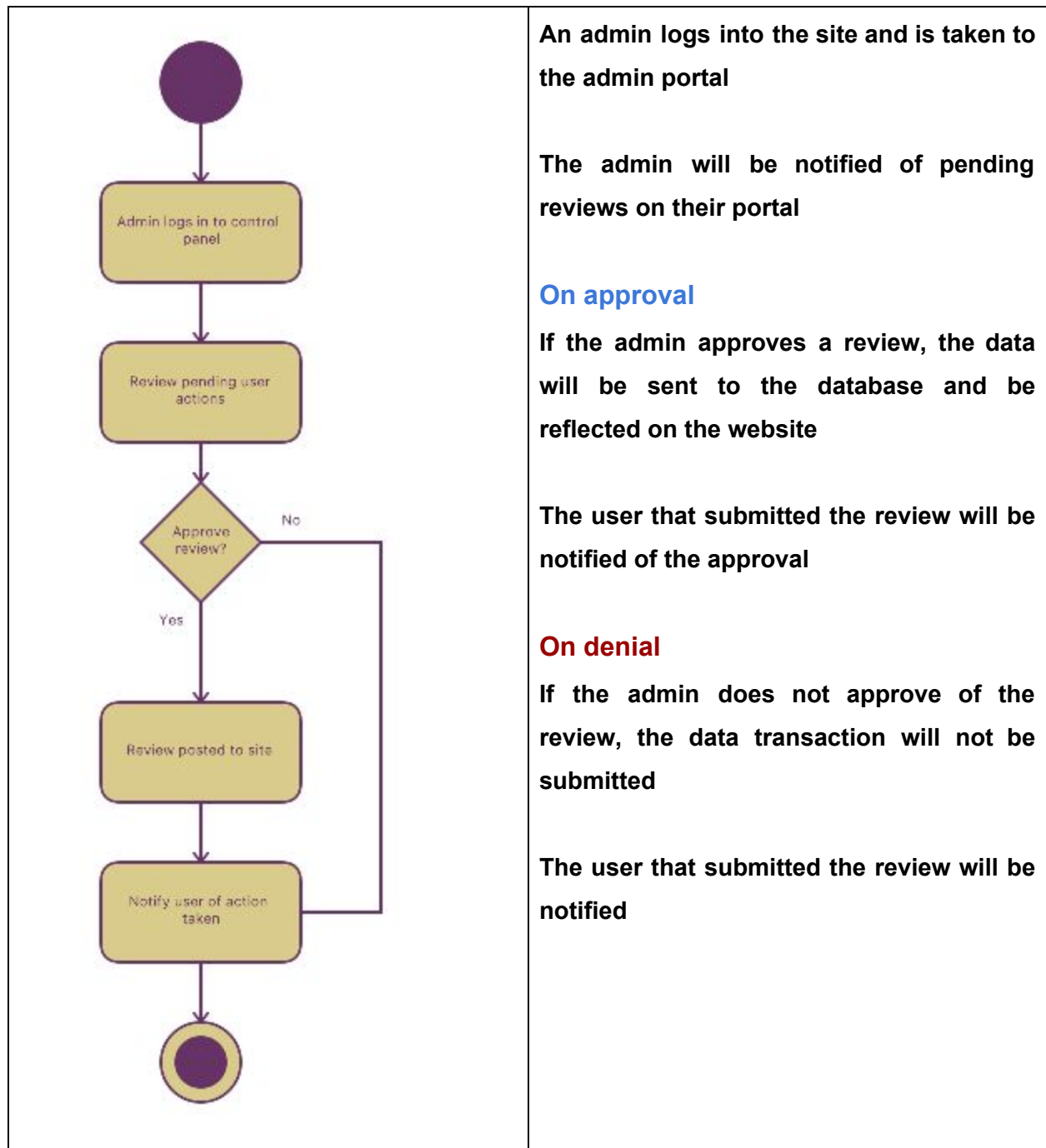
Once submitted the review will be sent to the database

### On failure

If a user is not signed in they will be prompted to sign in

If a user is not a member they will be asked to create an account

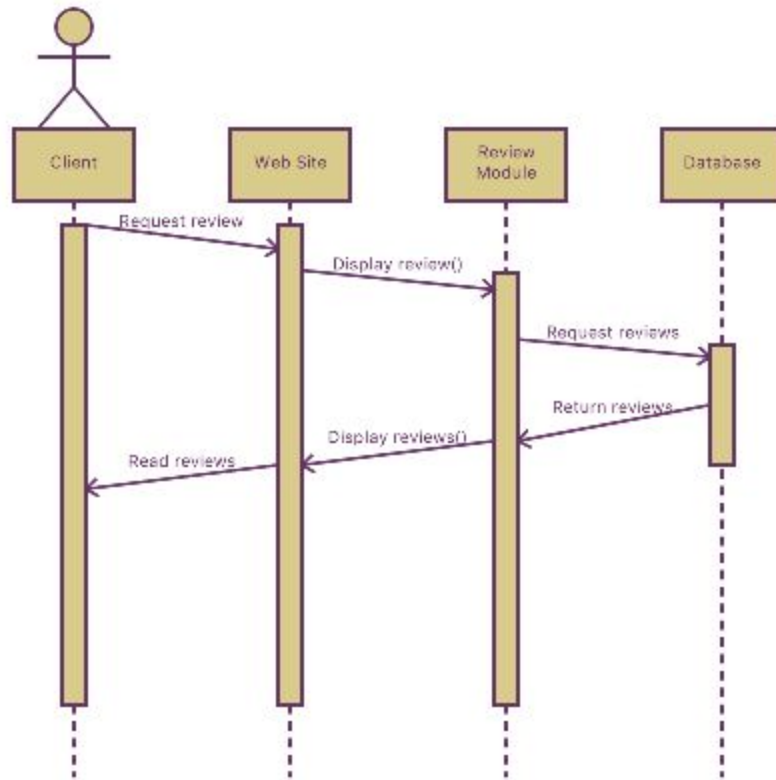
### Scenario (3)



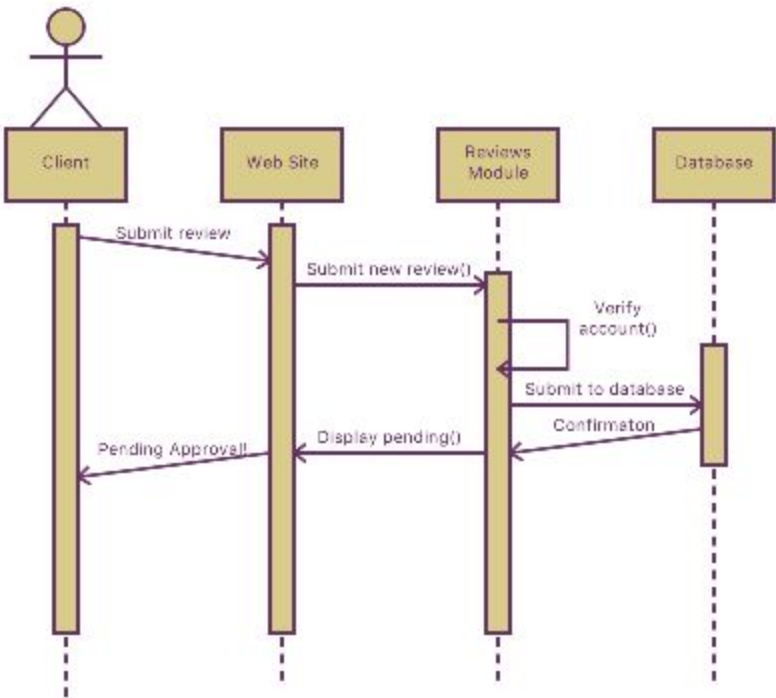


### 3.5.4 System Models

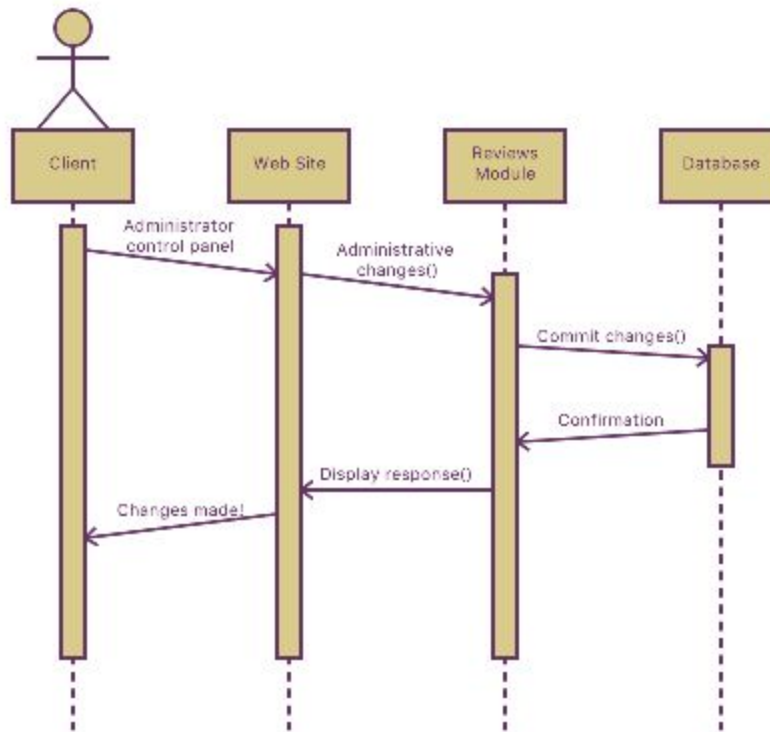
**Scenario (1):** The following data flow diagram illustrates the case when a user attempts to view a review through the site.



**Scenario (2):** The following data flow diagram illustrates the process a user will use to post to the reviews section. Membership is required and will be validated in order to post guides.



**Scenario (3):** The following data flow diagram illustrates the process that a member of the admin group will take in order to approve reviews.

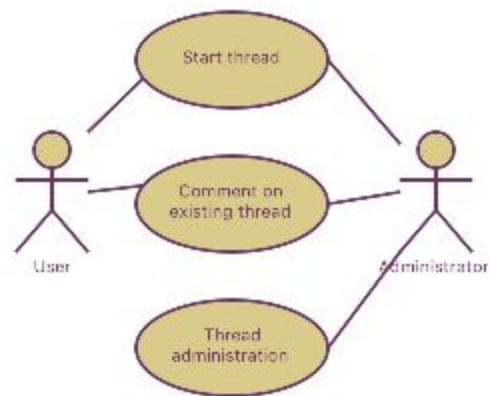


### 3.6 Forums/Discussions(Sean)

#### 3.6.1 Use Case Scenario

The forums will be a location designated for discussions between registered users as well as members of the admin group. These discussions will take the form of threads and will be designated to a specific game. General subjects may be a request for help in the game, commenting on a like or dislike, etc.

Users and administrators shall be able to comment upon an existing conversation thread. User and admin comments can be removed, but only by the admin group. This action will only occur when a thread or comment violates the site's Terms of Service.



#### 3.6.2 Use Description

##### Scenario(1)

Arrive at game's forum

Choice of posting or viewing new thread

When posting a new thread, check to see if user/admin is logged in

If logged in, allow new post

##### Scenario(2)

Arrive at game's forum.

Choice of viewing or posting thread.

View an existing thread.

If desired, user may post new comment in thread.

Check to see if signed in to site.

If signed in, user may post comments in thread.

**Scenario(3)**

Arrive at game's forum.

Choice of viewing or posting thread.

View an existing thread.

Attempt to modify existing post.

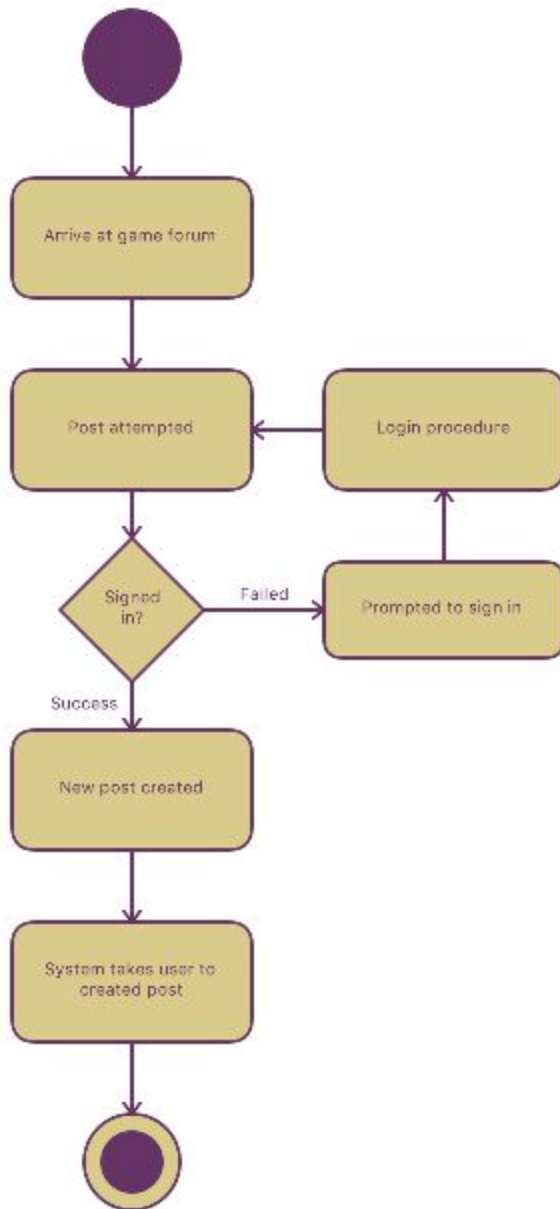
Check to see if signed into site.

If signed in, user may modify own posts.

If signed in, moderator/administrator may modify any post.

### 3.6.3 Behavior Models

#### Scenario (1)



A user or admin arrives at the game's forum

User or admin fills out a dialogue box

User or admin attempts to submit the post

**If signed in**

The post is submitted to the database when the user or admin is signed

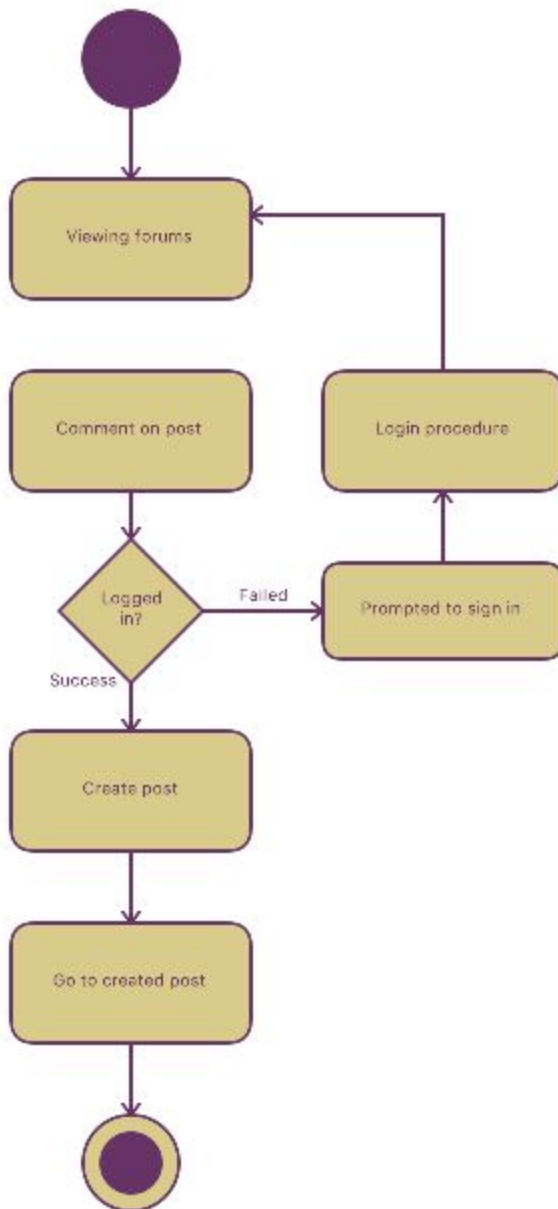
**If not signed in**

The user or admin are prompted to sign in

The user or admin are taken through the login procedure and their credentials are verified

The post is reattempted

## Scenario (2)



A user or admin arrives at the game's forum

User or admin fills out a dialogue box to comment on a post

User or admin attempts to submit the post

**If signed in**

The comment is submitted to the database when the user or admin is signed

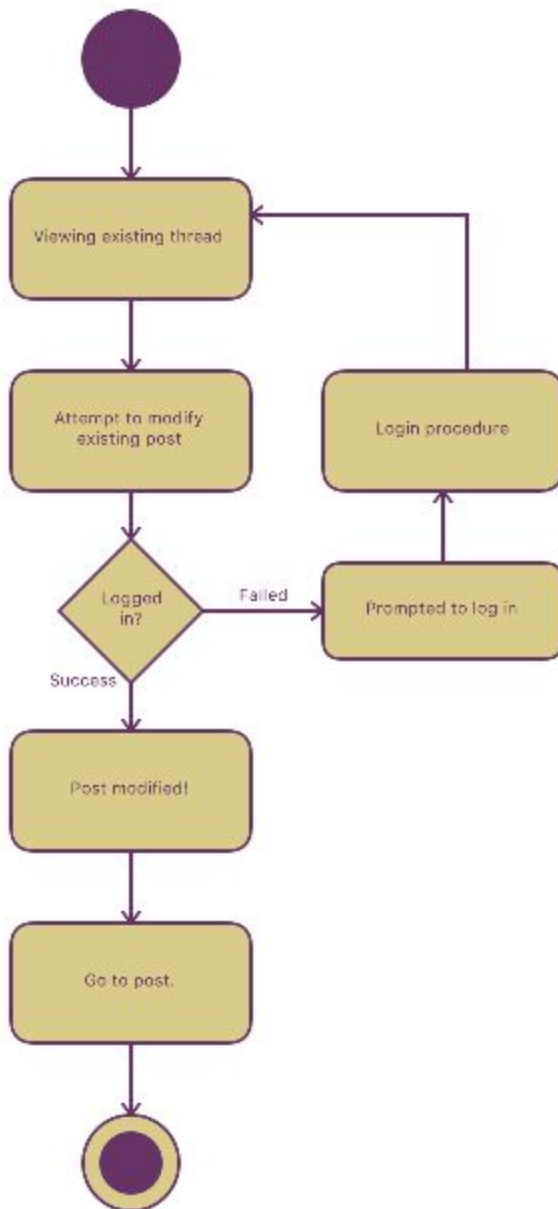
**If not signed in**

The user or admin are prompted to sign in

The user or admin are taken through the login procedure and their credentials are verified

The comment is reattempted

### Scenario (3)



**Admin arrives at the game's forum**

**Admin selects an existing thread**

**If a post violates the Terms of Service agreement the admin may attempt to modify or delete a comment**

**If signed in**

**The post is modified**

**The system returns the admin to the original post**

**If not signed in**

**The admin is prompted to sign in**

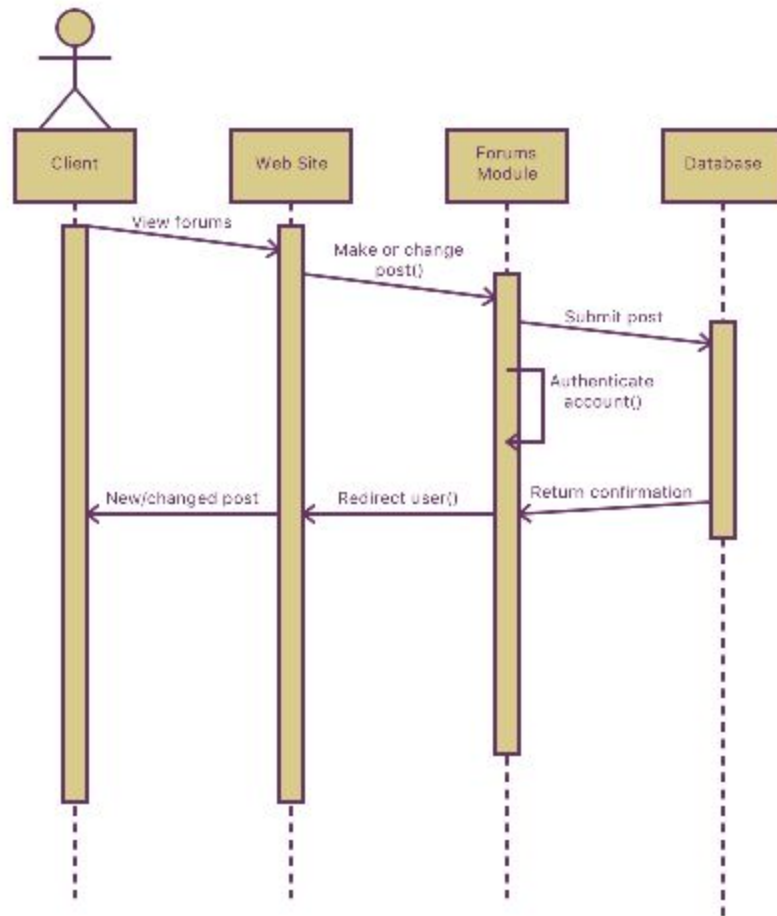
**The admin is taken through the login procedure and their credentials are verified**

**The post is modified**



### 3.6.4 System Models

**Scenario (1), (2), and (3):** The following data flow diagram illustrates the viewing of the forums by a user or admin. The chart also demonstrates the posting of a comment, change of a comment, and verification of a user or admin.

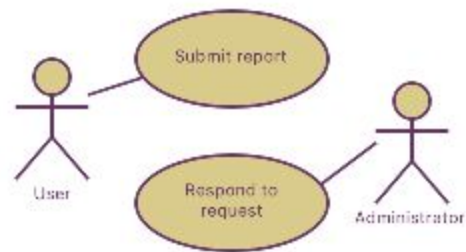


## 3.7 Support

### 3.7.1 Use Case Scenario

Support will be provided to users by admins. In case of a problem the users will be able to use a form to produce submissions regarding problems with the site or features of the site. For instance, a subject field will be provided so that users may help admin members categorize the problems. Another field will be designated where the user can describe the problem they are having. Only users who are registered to the site may submit reports.

This system will use reports submitted by the users through use of the previously mentioned forms. The admin will then attempt to resolve the issue.



### 3.7.2 Use Case Description

#### Scenario (1) Support Request

If users run into a problem on the site they will navigate the the support form

They will fill the form out to the best of their ability

The form will be submitted

If the user is signed in the report will arrive at the database

If the user is not signed in they will be prompted to sign in

The arrival of the form to the database will be prompted with a message to the user

#### Scenario (2) Admin Response

When administrators sign in they will arrive at the admin portal

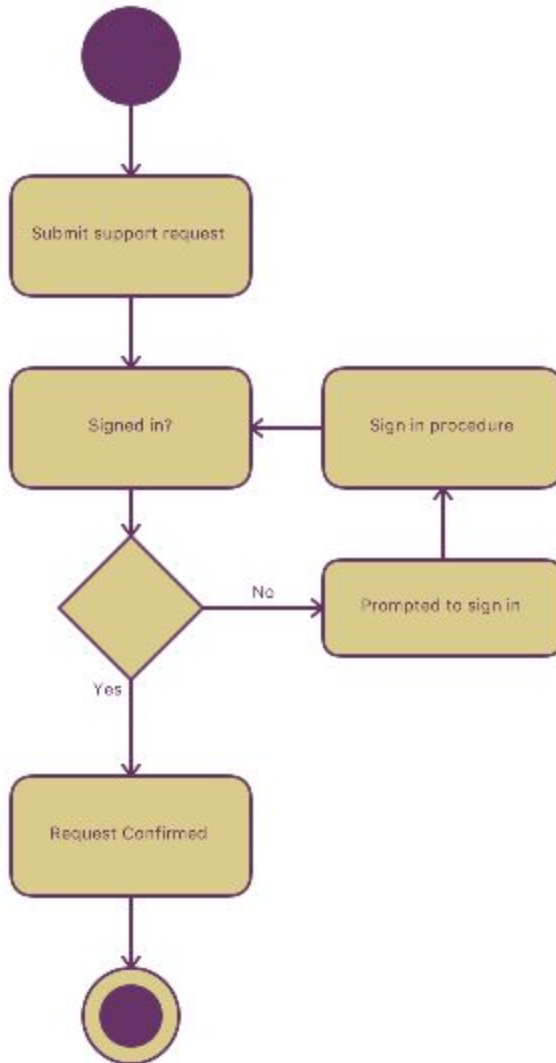
The admin will be notified of pending support requests

The admin will have the option of responding to requests

If the admin is able to respond they will attempt to resolve the problem and respond to the associated user

### 3.7.3 Behavior Models

#### Scenario (1)



User discovers problem

User navigates to the support submission form

User fills out the form

**If signed in**

The post is submitted to the database

The post awaits resolution from a member of the admin group

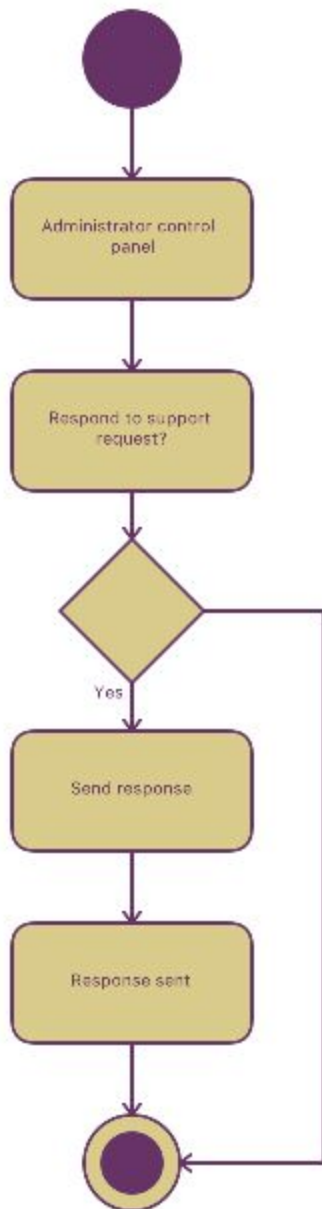
**If not signed in**

The user is prompted to sign in

The user is taken through the login procedure and their credentials are verified

Form data is then submitted

## Scenario (2)



Admin signs in and is taken to admin portal

Admin views pending requests from the support segment of the admin portal

### Response to request

After reviewing the pending request the admin may take appropriate action

If the action is taken the admin sends a response to the appropriate user

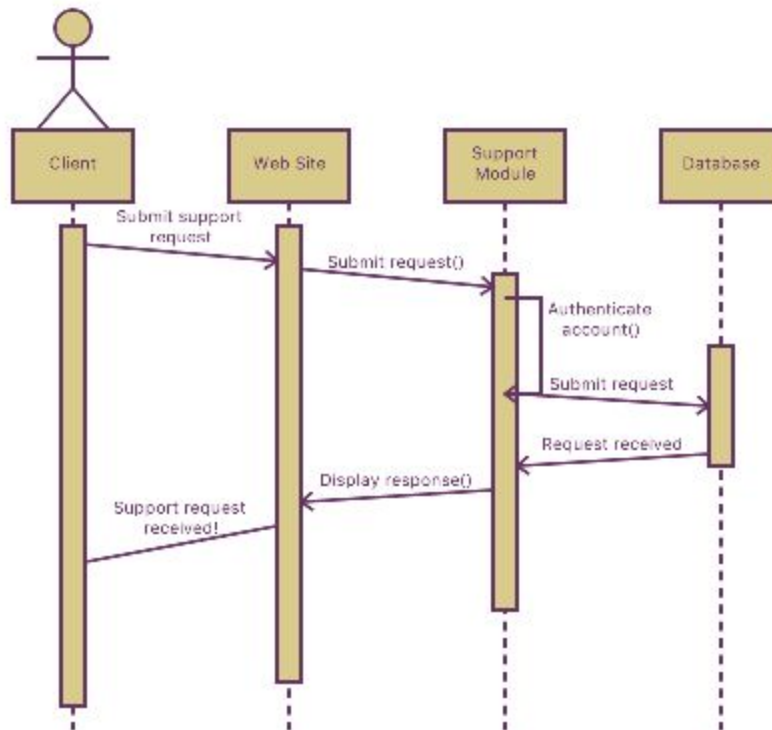
### No response yet available

After reviewing the pending request the admin may be unable to take appropriate action

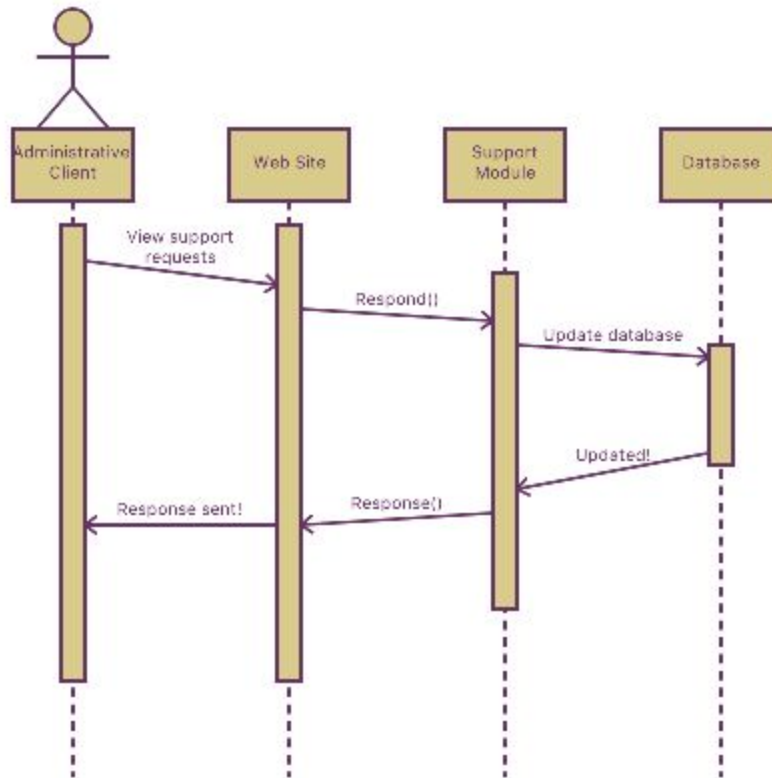
No resolution is yet available

### 3.7.4 System Models

**Scenario (1):** The following data flow diagram illustrates the data flow for a user submitting a request for support. The user must be authenticated by the system in order to submit a request/report.



**Scenario (2):** The following data flow diagram illustrates the data flow for a member of the admin group responding to a request.



## 4 Non-functional Requirements

### 4.1 Performance Requirements

The system must be interactive and delays involved must be less. So in action-response time of the system, there should be no immediate delays. If the user perceives an error from the system, the system should readily provide error messages. These messages should require no more than delay than under two seconds of time. In the case of users accessing a forum, there should be no delay in the display of content. When the user is posting to the forum, there should be an error message in case of failure.

### 4.2 Dependability Requirements

#### 4.2.1 Availability

If the internet is disrupted on a user's machine while sending information to the server, the information should be sent again for verification.

#### 4.2.2 Security

When a user creates login credentials the system should ensure that no two users have the same account name. Proper login mechanisms should be enforced to ensure that user passwords are not used for inappropriate access. Mechanisms to counter spam should be enforced. Security will enforce regulation to secure against unwanted use of the system.

#### 4.2.3 Usability

The system should allow users to navigate and access content easily.