BRD

Project Name: Tresearch
Application Type: Web Application

Trial By Fire
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Submission Date
10/06/2021

California State University, Long Beach
College of Engineering
CECS491 Section 6 11950, Fall 2021

Scope

The project will be a multiple page web application. We will support the latest version of Chrome at the date that we start development (we will maintain our Chrome versions at this version or downgrade the presenters version to it when necessary). Our initial target audience will be American English speaking residents of the United States above the age of 15 to comply with Children's Online Privacy Protection Act (COPPA). The IP range will be restricted to the United States to maintain our target customers. The web application will utilize cookies in order to enhance the user experience and for any other functionalities that may be enhanced through their use that we choose to apply the cookies towards. Cookies will adhere to the strongest regional regulations within the United States.

Use Case 1: Creating a node

Purpose: The purpose of this Use Case is for the User to be able to create a new tree or to grow an existing tree
Scope: This Use Case only deals with creating one node at a time for a given tree
Actors: User
Pre-Conditions:

Stable internet connection
User is logged in
User is on own tree page
Number of nodes created by the User has not reached the hard limit

Functions:

1. User fills input fields
    a. Title field
        i. Limited to 50 characters
    b. Description field
        i. Limited to 300 characters
2. User selects tags
    a. Beginner. Intermediate, Advanced, Research
3. Toggle private/public button

Variations:

1. Creating a child node
    a. Branch is automatically made to connect parent node to child node
    b. If parent is private, child is also made private

Post Conditions:

User tree data updated with data of the created node
User soft limit count incremented by one
If within 5 of soft limit, bring up soft limit message
- Nodes left before soft limit reached

If soft limit reached
- Message for soft limit reached
- Trigger recaptcha
- Message for how many soft limits left, how many nodes left before hard limit

User hard limit count incremented by one
If within (soft limit amount) of hard limit, bring up hard limit message
- Nodes left before hard limit reached

If hard limit reached
- Message for hard limit reached
- Trigger recaptcha

Error Conditions:
1. Already existing node with inputted title
    a. Error message
    b. Node not created
    c. User can change title
        i. If title changed, check again, if good then node is created
    d. If User exits function, data is deleted
2. Loss of internet connection
    a. Error message
    b. Maintain content data until User leaves function or reconnects
    c. If User leaves function before reconnect, node is deleted
3. User hard limit reached
    a. Error message
    b. User prevented from creating node
4. No connection to database
    a. Can't use this function

Non-Functional Requirements:

User can begin filling out input fields within 5 seconds
User tree data updated within 5 seconds
User tree page visually updated within 5 seconds
Function will be accessible 90% of the time
Time to repair function will be at least 1 hour and within 24 hours on average
Current amount of stored data for the system must not exceed the storage amount of the databases (10GB each), more databases may be added as deemed necessary

Use Case 2: Copying a node

Purpose: The purpose of this Use Case is for the User to be able to copy and store the data of nodes from another User's tree to later be pasted onto the User's tree

Scope: This Use Case deals with copying and storing the data of one or more nodes owned by another User simultaneously at a single time

Actors: User

Pre-Conditions:

Stable internet connection
User is logged in
User is on another User's tree page

Functions:
1. Make a copy of nodes from another User's tree

Variations:
1. Copy data already has data of other nodes
    a. Copy data is replaced with new data

Post Conditions:

User copy data updated with data of all selected nodes

Error Conditions:

1. Loss of internet connection
    a. Error message
    b. User copy data does not store the selected nodes
2. No connection to database
    a. Can't use this function

Non-Functional Requirements:

Copy data will be updated within 5 seconds
Function will be accessible 90% of the time
Time to repair function will be at least 1 hour and within 24 hours on average
Current amount of stored data for the system must not exceed the storage amount of the databases (10GB each), more databases may be added as deemed necessary

Use Case 3: Pasting a Node

Purpose: The purpose of this Use Case is for the User to be able to paste any stored node data in the copy data to the User's own tree

Scope: This Use Case deals with pasting any and all nodes that can be found in the copy data storage at that time

Actors: User

Pre-Conditions:

Stable internet connection
User is logged in
User is on own tree page
Number of nodes created by the User has not reached the hard limit

Functions:

1. Paste nodes in copy data to the User's tree

Post Conditions:

User tree data updated with data of all nodes in copy data
- All copied nodes titles have original creators name appended
- All nodes in copy data placed onto User tree page

Copy data cleared
User tree data updated
User soft limit count incremented by number of nodes in copy data
If within 5 of soft limit, bring up soft limit message
- Nodes left before soft limit reached

If soft limit reached or exceeded
- Message for soft limit reached
- Trigger recaptcha
- Message for how many soft limits left, how many nodes left before hard limit
- If limit exceeded, number of exceeded carries over to next soft limit

User hard limit count incremented by number of pasted nodes
If within (soft limit amount) of hard limit, bring up hard limit message
- Nodes left before hard limit reached

If hard limit reached

- Message for hard limit reached
- Trigger recaptcha

Error Conditions:

1. Loss of internet connection
    a. Error message
    b. Paste prevented
    c. Copy data is not deleted
2. Copy data storage is empty
    a. Error message
    b. Nothing is pasted
3. Hard limit would be exceeded
    a. Error message, notify User of how many nodes left before hard limit would be reached
    b. Prevent paste
    c. Clear copy data
4. No connection to database
    a. Can't use this function

Non-Functional Requirements:

User tree data updated within 5 seconds
User tree page visually updated within 5 seconds
Function will be accessible 90% of the time
Time to repair function will be at least 1 hour and within 24 hours on average
Current amount of stored data for the system must not exceed the storage amount of the databases (10GB each), more databases may be added as deemed necessary

Use Case 4: Setting node to private/public state

Purpose: The purpose of this Use Case is for the User to be change the visibility state of any of their nodes

Scope: This Use Case deals with changing the visibility state of one or more nodes that are owned by the User simultaneously at a single time

Actors: User

Pre-Conditions:

Stable internet connection
User is logged in
User is on their own tree page
User tree page has nodes

Functions:

1. User changes private/public state for any owned nodes

Post Conditions:

User tree data updated with state change of selected node(s)

Error Conditions:

1. Loss of internet connection
    a. Error message

    b. Prevent User tree data update
2. No connection to database
    a. Can’t use this function

Non-Functional Requirements:

User tree data updated within 5 seconds
User tree page visually updated within 5 seconds
Function will be accessible 90% of the time
Time to repair function will be at least 1 hour and within 24 hours on average
Current amount of stored data for the system must not exceed the storage amount of the databases (10GB each), more databases may be added as deemed necessary

Use Case 5: Changing contents of a node

Purpose: The purpose of this Use Case is for the User to be able to change the content of any of their nodes

Scope: This Use Case only deals with changing the contents of a single node that is owned by the User at a time

Actors: User

Pre-Conditions:

Stable internet connection
User is logged in
User is on their own tree page
User tree page has nodes

Functions:

1. User modifies input field contents
    a. Title - 50 character limit
    b. Description - 300 character limit

Post Conditions:

User tree data updated with changed content of selected node

Error Conditions:

1. Loss of internet connection
    a. Error message
    b. Prevent User tree data update
2. No connection to database
    a. Can’t use this function

Non-Functional Requirements:

User tree data updated within 5 seconds
User tree page visually updated within 5 seconds
Function will be accessible 90% of the time
Time to repair function will be at least 1 hour and within 24 hours on average
Current amount of stored data for the system must not exceed the storage amount of the databases (10GB each), more databases may be added as deemed necessary

Use Case 6: Changing tag of a node

Purpose: The purpose of this Use Case is for the User to be able to change the tags of any of their nodes
Scope: This Use Case deals with adding and removing tags from one or more nodes that are owned by the User simultaneously at a single time
Actors: User
Pre-Conditions:

Stable internet connection
User is logged in
User is on their own tree page
User tree page has nodes

Functions:

1. User adds or removes tags from their nodes

Post Conditions:

User tree data updated with changed tags of selected node(s)

Error Conditions:

1. Loss of internet connection
    a. Error message
    b. Prevent User tree data update
2. No connection to database
    a. Can't use this function

Non-Functional Requirements:

User tree data updated within 5 seconds
User tree page visually updated within 5 seconds
Function will be accessible 90% of the time
Time to repair function will be at least 1 hour and within 24 hours on average
Current amount of stored data for the system must not exceed the storage amount of the databases (10GB each), more databases may be added as deemed necessary

Use Case 7: Changing parent of a node

Purpose: The purpose of this Use Case is for the User to be able change the parent of any of their nodes as a way to move nodes around a tree or even detach from a tree
Scope: This Use Case only deals with changing the parent of a single node owned by the User at a time
Actors: User
Pre-Conditions:

Stable internet connection
User is logged in
User is on own tree page

Functions:

1. User changes parent of a node

Variations:

1. User selects “none” for parent
    a. Selected node becomes the root node of a new tree

Post Conditions:

User tree data updated with change to selected nodes parent
If selected node has descendants, they move visually with the selected node

Error Conditions:

1. Loss of internet connection
    a. Error message
    b. Prevent parent change
2. No connection to database
    a. Can’t use this function

Non-Functional Requirements:

User tree data updated within 5 seconds
User tree page visually updated within 5 seconds
Function will be accessible 90% of the time
Time to repair function will be at least 1 hour and within 24 hours on average
Current amount of stored data for the system must not exceed the storage amount of the databases (10GB each), more databases may be added as deemed necessary

Use Case 8: Deleting a node

Purpose: The purpose of this Use Case is for the User to be able to delete any of their own nodes. This will also allow the User to create more nodes if they have made any nodes during the time frame pertaining to the hard limit of node creation.

Scope: This Use Case deals with deleting one or more nodes that are owned by the User simultaneously at a single time

Actors: User

Pre-Conditions:

Stable internet connection
User is logged in
User is on their own tree page
User tree page has nodes

Functions:

1. User deletes a node(s)

Post Conditions:

1. Selected nodes are removed from user tree data
    a. If selected nodes had descendants that were not selected for deletion, parent(s) of highest level descendant(s) changes to parent of selected highest level selected node
        i. If it had a parent, User tree data updated with changes to highest level descendant(s) parent(s) (has a new parent)

        ii. If it did not have a parent, User tree data updated with changes to highest level descendant(s) parent(s) (no parent)
    2. If the User's hard limit count is greater than zero
        a. Subtract one from the hard limit count for each deleted node
            i. Stop of hard limit count reaches zero
        b. Reduce soft limit count according to amount that the hard limit count is reduced
            i. If soft limit count would reach zero, decrement soft limit number and repeat process with remaining hard limit count reduction

Error Conditions:

1. Loss of internet connection
    a. Error message
    b. Prevent User tree data update
2. No connection to database
    a. Can't use this function

Non-Functional Requirements:

User tree data updated within 5 seconds
User tree page visually updated within 5 seconds
Function will be accessible 90% of the time
Time to repair function will be at least 1 hour and within 24 hours on average
Current amount of stored data for the system must not exceed the storage amount of the databases (10GB each), more databases may be added as deemed necessary

Use Case 9: Searching for a topic

Purpose: The purpose of this Use Case is for the User to be able search for nodes that may be found on other User's trees, with the option to apply a filter on the initial search and/or on the results of the search

Scope: This Use Case deals with the User searching for a single topic/keyword/phrase at a time, applying a filter to that initial search if they so choose, and applying a filter to the results if they so choose

Actors: User

Pre-Conditions:

Stable internet connection

Functions:

1. User searches for a node that may be found on another User's tree
2. User can apply any filters before searching
3. User can apply any filters to the results of the search

Post Conditions:

1. System returns a list of Users whose tree page contains a public node titled exactly with the searched phrase/topic (ignoring casing), filtered by selected filters
2. System search data updated
    a. Number of times searched phrase/topic has been searched for is incremented by 1

Error Conditions:

1. No results for searched phrase/topic

    a. No results found message
2. Loss of internet connection
    a. Error message
    b. Prevent search
3. No connection to database
    a. Can't use this function

Non-Functional Requirements:

Return search results within 5 seconds
Function will be accessible 90% of the time
Time to repair function will be at least 1 hour and within 24 hours on average
Current amount of stored data for the system must not exceed the storage amount of the databases (10GB each), more databases may be added as deemed necessary

Use Case 10: Rating a node

Purpose: The purpose of this Use Case is for the User to be able to rate any nodes owned by another User

Scope: This Use Case deals with rating one or more nodes owned by another User simultaneously at a single time

Actors: User

Pre-Conditions:

Stable internet connection
User is logged in
User is on another User's tree page
Other User's tree page has public nodes

Functions:

1. User rates another User's nodes on a scale of 1 to 5

Post Conditions:

Other User tree data updated with changes to selected nodes ratings

Error Conditions:

1. Loss of internet connection
    a. Error message
    b. Prevent rating change
2. No connection to database
    a. Can't use this function

Non-Functional Requirements:

Other User tree data updated within 5 seconds
Other User tree page visually updated within 5 seconds
Function will be accessible 90% of the time
Time to repair function will be at least 1 hour and within 24 hours on average
Current amount of stored data for the system must not exceed the storage amount of the databases (10GB each), more databases may be added as deemed necessary