CirclesXR Documentation

Changes I have done and how they are working

Anastacia Gorbenko

Summer 2023

User Types

Type	Description
Superuser	- Automatically added when the server is started for the first time with default password of "password" - Can view and edit all worlds - Can create and send magic links to all worlds - Can grant viewing and editing access to worlds to users - Can change the user type of users - Can create users
Admin	- Can view and edit all worlds - Can create and send magic links to all worlds - Can grant viewing and editing access to worlds to users - Can change the user type of users - Can create users
Teacher/ Researcher	- Can view worlds that have no viewing restrictions - Can view worlds that they have been given access to (if they are in *viewingPermissions* array or *editingPermissions* array) - Can grant viewing and editing access to worlds that they have editing access to (if they are in *editingPermissions* array) - Can create and send magic links only to worlds they have editing access to (if they are in *editingPermissions* array)

Student/ Participant/ Tester	-	Can view worlds that have no viewing restrictions
	-	Can view worlds that they have been given viewing permissions to (if they are in *accessPermissions* array)
Guest	-	Can view worlds that have no access restrictions
	-	Restricted access on profile page - can only customize avatar
Magic Guest	-	Can view worlds that have no access restrictions
	-	Can view worlds that are in *magicLinkWorlds* array
	-	Restricted access on profile page - can only customize avatar

Updating User Types

- Can be edited under the "Manage Users" page (only accessible by superuser and admin users)
- Shows descriptions of the different user types and what they have permission to do
- Shows all users on the server and their current user type (expect themselves)
- Allows for changing user types to either admin, teacher, researcher, student, participant, or tester
- A user can NOT be assigned the role of superuser, guest, or magic guest

User Display Name

- When user is registered, by default the display name is their username
- Display name can be permanently changed (in the database) through the "Profile" page
- Display name can be changed temporarily for the session through the form on the "Explore" page
  - If the same user account logs in on different devices at the same time, each session can have a different temporary display name

User Registration

- Takes username, password, and password confirmation
- Username must be unique in the database
- If username is unique and passwords match, new user is created and added to database. Otherwise an error message is outputted
- The new user is automatically assigned as a participant user type
- User is automatically logged in when registered successfully

User Creation

- Superuser and admin users can create users on the "Manage Users" page

- User of type superuser, guest, or magic guest can NOT be created

- Can create users one at a time, or in bulk by uploading a CSV file in the following format:

  username,usertype

---

sampleAdmin,Admin

sampleTeacher,Teacher

sampleResearcher,Researcher

sampleStudent,Student

sampleParticipant,Participant

sampleTester,Tester

Guest Login

- New guest is created and added to database

- Guest expires and auto deletes from database 24 hours after it is created

Guest Database

expireAt	Object auto deletes 24 hours after it is created
usertype	"Guest" or "MagicGuest"
magicLinkWorlds	Worlds that they can access through the magic link
… Everything else same as user database, with the exception of there being no password or email	

Magic Links

- Can be created by superuser, admin, teacher, and researcher users on the "Explore" page

- Takes the number of days the link will be active and the world(s) it allows access to

- When used:

  - A new magic guest user is created in the database

  - User is automatically logged in

  - Explore page lists the worlds that the magic links give access to (alongside the public worlds)

Servers Database

ownerName	Server owner's name
description	Server description
worlds	Array of the names of the worlds in the server
link	Link to server

More Circles Servers

- "More Circles" page shows other Circles servers that are currently running
- When page is loaded, the server sends an HTTP request to the central server for data in the servers database
    - If request does not go through, an error message is displayed
    - If request is successful, information about each running Circles server is displayed
- Inactive servers will be greyed out and labelled as inactive
- On the central Circles Server, by superuser and admin users:
    - Servers can be added to the database
    - Servers can be marked as active or inactive
    - Servers can be deleted

World Database

- Automatically updated from the when server is started from public/worlds
- When server is started, worlds are compared to the ones in public/worlds. Worlds that are not in that folder are deleted from the database

name	Folder name
url	Path to folder
viewingRestrictions	If there are viewing restrictions (if there are none, all users can see the world)
viewingPermissions	What users can see the world (if there are access restrictions)

editingPermissions	What users can edit the world (who can edit viewing restrictions and permissions)
whiteboardFiles	Array of files that users have inserted into whiteboards in the world, storing the file and whiteboard id

*** When server is restarted, the public/worlds folder is deleted and remade to prevent deleted worlds from remaining ***

Updating World Access

- Worlds can have or not have viewing restrictions → This can be updated
- If there are no viewing restrictions, all users can access the world
- If there are viewing restrictions,
    - Shows what users can or can not view the world
    - Users can be given viewing permissions or their permissions can be taken away
- Worlds have editing permissions which control who can edit a world's viewing permissions
- Users will NOT see themselves on the lists

*** Wardrobe world access can not be changed and it does not show up in database ***

Uploaded Content Database

user	What user account the content is linked to
displayName	Name that the file was uploaded with
name	File name
url	Path to file
type	Type of content
category	Overall type of file (ex. Image, application)

Uploaded User Content

- Uploaded content is stored in node_server/uploaded

- Users can upload:

Text Files	Image Files	Video Files	3D Models
- .pdf	- .png	- .mp4	
- .plain	- .jpg	- .mov	
- .txt	- .jpeg	- .avi	
	- ~~.gif~~		

- "Uploaded Content" page shows all the content that the user has uploaded

- Users can delete content that they have uploaded

*** No A-Frame compatibility with .gifs ***

Whiteboard Component

- In world index.html, developer can add a-entity tag with circles-whiteboard component

  <a-entity id="whiteboard"

       circles-whiteboard>

  </a-entity>

- Once set, whiteboard id can NOT be changed (otherwise none of the associated content on the board will show up anymore

- Allows users to insert files they have uploaded on "Uploaded Content" page

    - Files can be moved around on board

    - Files can be deleted from board

- Allows users to draw

    - Pencil tool

    - Eraser tool

    - Color selector

- Allows users to talk through text chat

circles-whiteboard	
Schema	**Description**
height	Height of board object (default 3)
width	Width of board object (default 5)
depth	Depth of board object (default 0.25)
boardColor	Base color of board object (default white)
shadows	If the board creates and takes shadows (default false)
Overview	

Generates whiteboard itself inside of entity tag

Allows users to insert files and draw on board

Allows users to use text chat

Handles button presses

Inserting files

If this is the first or the only circles-whiteboard, attaches circles-upload-ui to entity tag

When upload button is clicked, circles-upload-ui component is activated for the current whiteboard
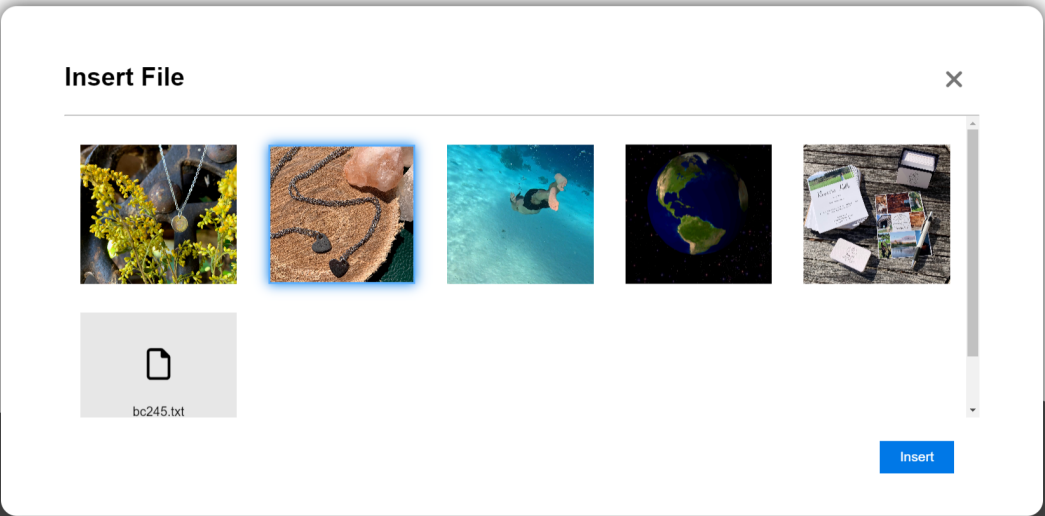
circles-upload-ui	
Schema	**Description**
active	If the UI should currently be displayed (default false)
whiteboardID	The whiteboard to upload file to

Overview

Generates pop up to insert files into whiteboard

Only run through first circles-whiteboard component so there is only 1 pop up generated

All whiteboards use the pop up

When component is activated (*active* is true), pop up is displayed

When component is inactivated (*active* is false), pop up is hidden

When file is selected and insert button is clicked:

- Entry is added to *whiteboardFiles* array for that world to store the file and what whiteboard it was uploaded to
- Entity tag for the file is added to whiteboard with the circles-whiteboard-file component attached

circles-whiteboard-file	
Schema	**Description**
category	Catagory of file (ex. image, video, text)
id	File asset
originalHeight	File height
originalWidth	File width
boardHeight	Whiteboard height
boardWidth	Whiteboard width
Overview	
Controls file inserted into whiteboard	
Displays file	

Models

- Automatically added to database when the server is started for the first time

Ideas For Later

- *General:*
  - Better authentication of users for some actions (ex. if they are an admin user when trying to delete a server)
- *Explore Page:*
  - Sort worlds into different categories (ex. public worlds, worlds the user has viewing access to, worlds the user has editing access to)
  - For superuser and admin users, show what worlds are public and private
- *Edit World Access Page:*
  - Sorting users (ex. sort by user type, username)
  - Searching for usernames
  - Filtering by user type
- *Profile Page:*
  - Allow user to see their avatar when customizing it
  - Deleting users
- *Manage Users Page:*
  - Sorting users (ex. sort by user type, username)
  - Searching for usernames
  - Filtering by user type
- *Magic Links:*
  - When a magic link is used, give the user the option to create a magic guest user account that they can continuously use while the magic link is active (user auto-deletes from database when magic link expires) - This allows the user to have their account preferences saved instead of having a new guest user created every time they want to use the magic link
  - Continuing on idea above, allow users to link the world(s) to an existing account rather than having to create a new one
    - Access to world would expire when magic link expires
  - Allow users to see the active links they have created and when they expire
- *More Circles Page:*
  - Searching for servers
  - Filtering through active and inactive servers