Software Requirements Specification Document

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Brief problem statement

Our challenge is to develop a solution that allows museums to effectively showcase their artifacts in a three-dimensional (3D) view on our website. Currently, museums face limitations in presenting the full scope and intricacies of their collections through traditional 2D images and descriptions. To enhance the online visitor experience and provide a more immersive representation of cultural and historical artifacts, we need to create a user-friendly platform for museums to display their items in 3D.

System requirements

MERN STACK, 3.JS, GOOGLE STREET VIEW API, BLENDER,TYPESCRIPT

Users profile

Public:

Characteristics:These users have varied backgrounds and interests, ranging from passionate art and history enthusiasts to those with a casual curiosity. Their computer skills span a wide spectrum, with some being tech-savvy and others less experienced in using websites and digital platforms.

Usage: They visit the website without a specific academic or professional purpose. Instead, they explore it for personal enjoyment and curiosity. They might spend their leisure time casually browsing the site, discovering interesting artifacts, and learning about them. These users are driven by their innate curiosity and the desire to broaden their knowledge of museum artifacts in an accessible and engaging manner.

Museum Staff:

Characteristics: Professionals responsible for museum collections, interested in public engagement.These professionals oversee museum collections and are keen on finding ways to engage the public with these artifacts.

Usage: Professionals managing museum collections can use the website to share their historical importance, and offer a platform for public exploration, showcase their museum's artifacts,promote exhibits,and engage with the public to strengthen the museum's connection.

Feature requirements (described using use cases)

No.	User Case Name	Description	Release
1.	view map	This use case describes how a user can locate artifacts on a map.	01
2.	locate artifact	This use case describes how a user can enter street view on a map.	01
3.	Navigate in Street View	This use case describes how a user can navigate in street view on a map	01
4.	Zoom In and Out of Artifacts	This use case describes how a user can zoom in and out of artifacts on a map.	01
5.	Switch Between Dark and Light Mode	This use case describes how a user can switch between dark and light mode on a map.	02
6.	Enter Street view	This use case allows users to enter the street view of a museum or artifact location.	01
7.	Artifact Information	This use case enables users to access detailed information about a selected artifact.	02
8.	Rotate Artifact	This use case allows users to rotate a 3D artifact model to view it from different angles.	01
9.	Multi-Language Support	This use case describes how a user can interact with a multi-language supported map.	02
10.	View Related Artifacts	This use case allows users to access a list of related artifacts associated with the one currently being viewed.	02
11.			
12.			
13.			
14.			

Use case diagram

Use case description

Use Case Number:	**UC -01**
Use Case Name:	View Map
Overview:	This use case describes how a user can locate artifacts on a map.
Actors:	User, Map Interface
Pre condition:	The user has access to the map interface and knows the location of the artifact.
Flow:	Main (success) Flow: The user inputs the location of the artifact into the map interface. The map interface displays the location of the artifact on the map.
	Alternate Flows: If the user inputs an incorrect or unrecognized location, the map interface prompts the user to try again with a valid location.
Post Condition:	The artifact's location is displayed on the map.

Use Case Number:	**UC-02**
Use Case Name:	Locate Artifact (Jump Option)
Overview:	This use case describes how a user can enter street view on a map.

Actors:	User, Map Interface
Pre condition:	The user has access to the map interface and street view is available for the selected location.
Flow:	Main (success) Flow: The user selects a location on the map and chooses to enter street view. The map interface transitions to street view for the selected location.
	Alternate Flows: If street view is not available for the selected location, the map interface informs the user and prompts them to select a different location.
Post Condition:	The user is in street view for the selected location.

Use Case Number:	**UC-03**
Use Case Name:	Enter Street view
Overview:	This use case allows users to enter the street view of a museum or artifact location.
Actors:	User, Map Interface
Pre condition:	● The user is viewing the map. ● A museum or artifact location is selected.
Flow:	1)User clicks on a museum or artifact location on the map. 2)The street view of the selected location is displayed.

Post Condition:	The user is in street view mode.

Use Case Number:	**UC-04**
Use Case Name:	Navigate in Street View
Overview:	This use case describes how a user can navigate in street view on a map
Actors:	User, Map Interface
Pre condition:	The user is in street view on the map interface.
Flow:	Main (success) Flow:The user uses controls provided by the map interface to navigate in street view.
	Alternate Flows: If the user attempts to navigate to an area not covered by street view, the map interface informs the user and prevents them from navigating to that area.

Post Condition:	The user's view changes based on their navigation.

Use Case Number:	**UC-05**
Use Case Name:	Rotate Artifact
Overview:	This use case allows users to rotate a 3D artifact model to view it from different angles.
Actors:	User, Map Interface
Pre condition:	The user is viewing a 3D artifact model.
Flow:	Main (success) Flow: 1)User interacts with rotation controls to change the orientation of the artifact model. 2)The artifact model rotates accordingly.
Post Condition:	The user has rotated the 3D artifact model as desired

Use Case Number:	**UC-06**
Use Case Name:	Zoom In and Out of Artifacts
Overview:	This use case describes how a user can zoom in and out of artifacts on a map.
Actors:	User, Map Interface
Pre condition:	The user has located an artifact on the map interface.

Flow:	Main (success) Flow: The user uses zoom controls provided by the map interface to zoom in and out of the artifact.
	Alternate Flows: If the user attempts to zoom in beyond the maximum level of detail available for the artifact, the map interface prevents further zooming in.
Post Condition:	The user's view of the artifact is zoomed in or out.

Use Case Number:	**UC-07**
Use Case Name:	Artifact Information
Overview:	This use case enables users to access detailed information about a selected artifact.
Actors:	User, Map Interface
Pre condition:	The user is viewing an artifact, either on the map or in 3D view.
Flow:	MAIN FLOW- 1)User clicks on an artifact on the map or within the 3D view. 2)Detailed information about the artifact is displayed.

Post Condition:	The user is viewing detailed information about the selected artifact.

Use Case Number:	**UC-08**
Use Case Name:	Switch Between Light and Dark View
Overview:	This use case allows users to toggle between a light and dark view mode to customize the website's appearance.
Actors:	User
Pre condition:	The user is on the website.
Flow:	Main (success) Flow: User selects the "Light Mode" or "Dark Mode" option from the settings.
	Alternate Flows: The website's appearance changes according to the selected mode.
Post Condition:	The website is displayed in the selected view mode.

Use Case Number:	**UC-09**
Use Case Name:	Language Selection
Overview:	This use case allows users to choose their preferred language for website content and artifact information.
Actors:	User
Pre condition:	The user is on the website.
Flow:	Main (success) Flow: 1)User selects their preferred language from the language options. 2)Website content and artifact information are displayed in the selected language.
Post Condition:	The website is displayed in the user's chosen language.

Use Case Number:	**UC-10**
Use Case Name:	View Related Artifacts
Overview:	This use case allows users to access a list of related artifacts associated with the one currently being viewed.
Actors:	User
Pre condition:	The user is viewing detailed information about an artifact.
Flow:	Main (success) Flow: 1)User selects the "Related Artifacts" option. 2)A list of related artifacts is displayed
	Alternate Flows: Include the post condition for each alternate flow if different from the main flow.
Post Condition:	The user is viewing a list of related artifacts for exploration.