

# VR Project Design Document

06|22|2023  
VVLP Team

## 1 App Info

Tentative Title:	Hedeby Chest		
<input checked="" type="checkbox"/>	Education & Training	<input type="checkbox"/>	Mental Health & Fitness
<input type="checkbox"/>	Travel & Discovery	<input type="checkbox"/>	Media & Entertainment
<input type="checkbox"/>	Productivity & Collaboration	<input type="checkbox"/>	Gaming
<input type="checkbox"/>	Art & Creativity	<input type="checkbox"/>	Other: _____

## 2 Pitch

To goal is for users to [learn | **experience** | practice | review | design | play | other]:

Learn how one might interact with this specific historical object including what might have been stored in it.

This will be especially [**impactful** | educational | **memorable** | effective | fun | other] in VR b/c:

museums do not typically allow you to interact with objects so this will be a unique experience for most people.

At a high level, during the app, users will:

open, retrieve items from, place items in, and close the chest.

This experience will be targeted at devices with:

[6]	degrees of freedom, giving users control over the	[movement & rotation]	of their head & controllers.
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## 3 Basics

The app will take place in:

a field (eventually a ship)

and the user will get around the scene with:

[teleport]

movement.

The user will be able to grab:

- bedroll
- cup
- bowl
- comb

There [will not] be sockets:

- 
- 
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## 4

### Events & Interactions

There will be haptic / audio feedback when:

- Pick items up
- open/close chest
- Eventually- insert key to lock

There will also be 3D sound from:

- chest
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If the user is holding:

The chest lid	and presses the grip,	They can open it
	and presses the trigger,	
	and presses the trigger,	
		Suggestions: a UI change, a sound/video plays, a particle plays, an object is spawned or destroyed.

By default, the left hand will have a:

[Direct]

interactor.

and the right hand will have a:

[Direct]

interactor.

And you [will] be able to toggle on a [Ray] interactor using the [thumbstick].

The main menu will be located:

Near the origin

and from the main menu, the user will be able to:

- Dismiss ray tip
- Dismiss menu

[Optional] There will be additional UI elements for:

- Eventually tell you how to unlock the chest
- 

## 5

### Optimization & Publishing

To make the user experience more accessible / comfortable:

- Provide locomotion alternatives- ie no snap turning
- Use a fade when teleporting and loading
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Given that this app is targeting the [headset model], target metrics are:

Frames per second:	<b>&gt;= 72</b>	FPS
Milliseconds per frame:	<b>&lt; 24</b>	ms (= 1,000 / FPS)
Triangles per frame:	<b>350k - 500k</b>	tris
Draw calls per frame:	<b>200 - 400</b>	batches

Lighting strategy:

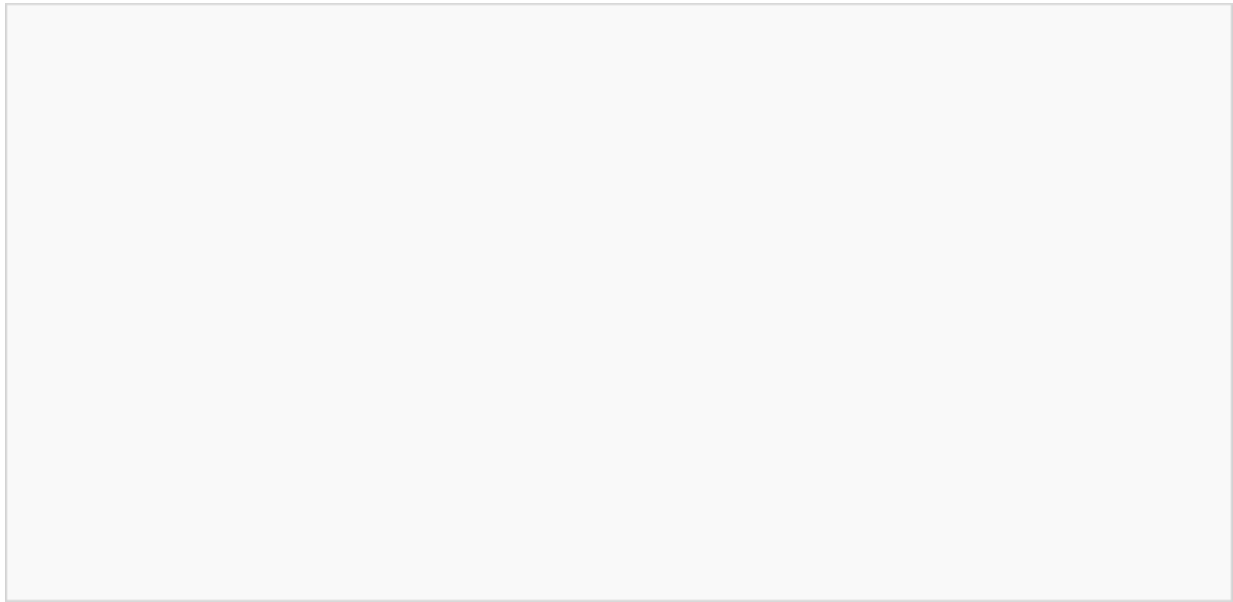
<input type="checkbox"/>	All baked	<input checked="" type="checkbox"/>	Mostly baked with some mixed	<input type="checkbox"/>	All real-time
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Light probes [will] also be used for more realistic mixed lighting.

6  
Other  
features  
(Optional)

- A key and lock using custom scripting so the user can unlock the chest
- Comb, bed roll, cup, bowl can be placed in/taken out of
- Once custom scripting covered- use a button to turn rays on/off without having to hold it down
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- 
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7  
Sketch  
(Optional)



8  
Timeline  
(Optional)

	Milestone	Date
1	- Unit 4	7/5/23
2	- Unit 6	7/14/23
3	-	
4	-	
5	-	