Malloci
Approachable Virtual Reality Content Creation

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The State of VR

Kennedy Space Center AR/VR Lab – 2017
The State of VR

Hey Michael

Oh hey Sharanya!

Where are you guys?

I'm right here!

Just in!
The State of VR Content Creation

Unity 3D:
- Large community
- Good hardware support
- Designed for engineers

AFrame
- Open Source
- Web based
- Still designed for Developers

Tilt Brush:
- Intuitive Interface
- Designed for humans
- Limited hardware support
Could VR content creation be as **intuitive** as writing a blog post?
# VR MarkDown Syntax

## Basic Syntax

<table>
<thead>
<tr>
<th>Markdown</th>
<th>Remapped Output</th>
</tr>
</thead>
<tbody>
<tr>
<td># Title</td>
<td>Each tag creates a room within the museum space, Single # define the name of the museum.</td>
</tr>
<tr>
<td>## section</td>
<td></td>
</tr>
<tr>
<td>### Subsection</td>
<td></td>
</tr>
<tr>
<td><img src="val.jpg" alt="This is my dog" /></td>
<td><img src="val.jpg" alt="This is my dog" /></td>
</tr>
<tr>
<td>&gt; This is a block quote</td>
<td><img src="val.jpg" alt="This is a block quote" /></td>
</tr>
<tr>
<td>...</td>
<td></td>
</tr>
<tr>
<td>let ex = &quot;Hello World&quot;</td>
<td><img src="val.jpg" alt="Hello World" /></td>
</tr>
<tr>
<td>console.log(ex)</td>
<td><img src="val.jpg" alt="Hello World" /></td>
</tr>
</tbody>
</table>

## Extended Syntax

<table>
<thead>
<tr>
<th>Markdown</th>
<th>Rendered</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="img.png" alt="wall" /> <img src="img.png" alt="ceiling" /></td>
<td>set the textures of the walls, ceiling, floor, frames, or color of the sky (hex code or rgb).</td>
<td></td>
</tr>
<tr>
<td>![sky](sky-255, 255, 255)</td>
<td>This audio file will be attached to the artifact on the line above it</td>
<td></td>
</tr>
<tr>
<td><img src="img.png" alt="caption text" /> <img src="audio-file.mp3" alt="audio" /></td>
<td>This will define a custom frame texture for the artifact on the line above it</td>
<td></td>
</tr>
<tr>
<td><img src="img.png" alt="frame" /> <img src="audio-file.mp3" alt="audio" /></td>
<td>An artifact with a custom frame and audio description.</td>
<td></td>
</tr>
<tr>
<td><img src="img.png" alt="caption text" /> <img src="audio-file.mp3" alt="audio" /></td>
<td>These artifacts will be visible in the VR museum, but not in the document view</td>
<td></td>
</tr>
</tbody>
</table>
# Instant Joy

> In the early 20th Century, Edwin Land developed the first Polaroid Land Camera, a device that could capture a moment and within minutes put a truly beautiful and unique photo in your hands. This is a collection of instant photos I've taken over the years.

![](first_polaroid.jpg)

## It Found Me

As a person who works in tech, I find myself staring at screens for most of the day. While I do appreciate all the conveniences that modern technology affords, I find myself longing for a way to slow down and truly enjoy the world around me, and a way to get away from my work.

> When I needed it most, I stumbled upon a beautiful Polaroid SX-70 while browsing a thrift store to kill time.

![](first_polaroid_camera.jpg)

~

I immediately fell in love. This is a self-portrait I took with my friends bird!

~
# Instant Joy

> in the early 20th Century, Edwin Land developed the first Polaroid Land Camera, a device that could capture a moment and within minutes put a truly beautiful and unique photo in your hands. This is a collection of instant photos I've taken over the years.

> This is my first polaroid, a photo of my dog asleep on my bed. I took it to test a camera I had purchased for my younger sister.!

## It Found Me

As a person who works in tech, I find myself staring at screens for most of the day. While I do appreciate all the conveniences that modern technology affords, I find myself longing for a way to slow down and truly enjoy the world around me, and a way to get away from my work.

> When I needed it most, I stumbled upon a beautiful Polaroid SX-70 while browsing a thrift store to kill time.

> My first polaroid camera, an SX-70 with Sonar autofocus, I found in a thrift store for $35.!
Could browsing Wikipedia articles be as enjoyable as viewing an exhibition?
University of California, Berkeley

From Wikipedia, the free encyclopedia

"Berkeley University" redirects here. It is not to be confused with Berkeley College, Berkeley College (Yale University), or Berklee College of Music.

The University of California, Berkeley (UC Berkeley, Berkeley, Cal, or California)[6][7] is a public research university in Berkeley, California.[7] Founded in 1868, it is the oldest of the ten campuses of the University of California. Berkeley has been ranked by numerous major education publications as among the top 10 universities in the world.[8][9][10][11][12]

Berkeley is one of the 14 founding members of the Association of American Universities and had $797 million in R&D expenditures in the fiscal year ending June 30, 2018.[13] Today, Berkeley maintains close relationships with three United States Department of Energy National Laboratories—Lawrence Berkeley National Laboratory, Lawrence Livermore National Laboratory and Los Alamos National Laboratory—and is home to many institutes, including the Mathematical Sciences Research Institute and the Space Sciences Laboratory.[14] Through its partner institution University of California, San Francisco (UCSF), Berkeley also offers a joint medical program at the UCSF Medical Center.[15]

As of October 2019, Berkeley alumni, faculty members and researchers include 107 Nobel laureates, the third most of any university worldwide, as well as 25 Turing Award winners, at least 27 Rhodes Scholars, and 14 Fields Medalists. They have also won 19 Wolf Prizes, 45 MacArthur Fellowships,[16] 20 Academy Awards, 20 Pulitzer Prizes, and 207 Olympic medals.[17] In 1930, Ernest Lawrence invented the cyclotron at Berkeley, based on which UC Berkeley researchers along with Berkeley Lab have discovered or co-discovered 16 chemical elements — more than any other university.[18][19][20]

During the 1940s, Berkeley physicist J. R. Oppenheimer, the "Father of the Atomic Bomb", led the

University of California, Berkeley

Former names

University of California
(1866–1958)

Motto

Fiat lux (Latin)

Motto in English

Let there be light

Type

Public research university

Land-grant

Established

March 23, 1868

Parent institution

University of California

Academic affiliations

AAU • IARU • URA • APRU

APLU • WASC
The University of California, Berkeley (UC Berkeley, Berkeley, Cal, or California) is a public research university in Berkeley, California. Founded in 1868, it is the oldest of the ten campuses of the University of California. Berkeley has been ranked by numerous major education publications as among the top 10 universities in the world.

Berkeley is a city on the east shore of San Francisco Bay in northern Alameda County, California.[1](https://upload.wikimedia.org/wikipedia/commons/6/69/Berkeley-downtown-Bay-bridge-SF-in-beck-from-Lab.jpg)

The University of California (UC) is a public university system in the U.S. ([https://upload.wikimedia.org/wikipedia/commons/f/fc/The_University_of_California_1868.svg](https://upload.wikimedia.org/wikipedia/commons/f/fc/The_University_of_California_1868.svg))

Berkeley is one of the 14 founding members of the Association of American Universities and had $797 million in R&D expenditures in the fiscal year ending June 30, 2018. Today, Berkeley maintains close relationships with three United States Department of Energy National Laboratories—Lawrence Berkeley National Laboratory, Lawrence Livermore National Laboratory and Los Alamos National Laboratory—and is home to many institutes, including the Mathematical Sciences Research Institute and the Space Sciences Laboratory. Through its partner institution University of California, San Francisco (UCSF), Berkeley also offers a joint medical program at the UCSF Medical Center.

Lawrence Livermore National Laboratory (LLNL) is a federal research facility in Livermore, California, United States, founded by the University of California, Berkeley in 1952.([https://upload.wikimedia.org/wikipedia/commons/6/69/USA_California_location_map.svg](https://upload.wikimedia.org/wikipedia/commons/6/69/USA_California_location_map.svg))

Los Alamos National Laboratory is a United States Department of Energy national laboratory initially organized during World War II for the design of nuclear weapons as part of the Manhattan Project.([https://upload.wikimedia.org/wikipedia/commons/4/4d/Los_Alabos_aerial_view.jpg](https://upload.wikimedia.org/wikipedia/commons/4/4d/Los_Alabos_aerial_view.jpg))
52 million articles become 52 million exhibits
VR Experience Design

To optimize the VR museum experience:

- Museum-style architecture
  - Section – Room
  - Header – Floor Signage
- Default space design
  - Natural, delightful, spacious & modern
- Ambient sound
- User guide
Welcome to Malloci VR

The trigger can be used to teleport and play audio when an artifact has an audio icon.

The thumb stick can be used to move.

You can walk around if your headset supports it.
Research

Malloci has been created to elicit the feeling of being in a physical museum by the incorporation of elements such as:

- Themed background
- Custom lighting
- Ambient Sound
- Wall art style display
- Intuitive navigation system
Research

The research for this project was focused on the creation of a stimulating and unforgettable experience.

To achieve this we focused on specific concepts, some of which are:

- **Interactability**
- **Spatial interpretability**
- **Environmental stimuli**
User Testing

Are users able to **efficiently** and **intuitively** interact with the interface irrespective of their level of experience with VR technology?
Thank you!
Welcome to Malloci!
http://mallocivr.github.io/