

Art Institute of Chicago Online Collection

Eye-tracking study

Pratt

dx. Center for
Digital Experiences

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Overview

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02 Methodology

03 Findings

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01

Introduction

Research objectives

This study aims to provide insights into the **browsing experience** of one particular type of user that visits art museum online collections: **artists** and creative professionals, defined for this research as users that have an education and/or professional connection with art or other creative industries.

- Understand how artists use the internet to find inspiration
- Assess the impact of images and visual content
- Layout effectiveness
- Evaluate the usefulness of browsing features

AIC Online Collection



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THE COLLECTION

Explore thousands of artworks in the museum's wide-ranging collection—from our world-renowned icons to lesser-known gems from every corner of the globe—as well as our books, writings, reference materials, and other resources.

[ARTWORKS](#) [WRITINGS](#) [RESOURCES](#)

Search by keyword, artist, or reference



Hide Filters

On view 53,199 results

Clear all

- SORT**
- DATE**
- COLOR**
- CLASSIFICATIONS**
- PLACES**
- MEDIUM**
- ARTISTS**
- SUBJECTS**
- STYLES**
- DEPARTMENTS**
- SHOW ONLY**

- Public domain
- Recent acquisition
- Has multimedia
- Has educational resources
- On view

PUBLIC DOMAIN



The Bedroom, 1889
Vincent van Gogh



Buddha Shakyamuni Seated in Meditation (Dhyanamudra), Chola period, about 12th century



Paris Street; Rainy Day, 1877
Gustave Caillebotte



Coronation Stone of Motecuhzoma II (Stone of the Five Suns), 1503
Aztec (Mexico)



Under the Wave off Kanagawa (Kanagawa oki nami ura), also known as The Great Wave, from the series 'Thirty-Six Views of Mount Fuji (Fugaku sanjurokkei)', 1830/33
Katsushika Hokusai



A Sunday on La Grande Jatte — 1884, 1884/86
Georges Seurat



Inspiration—There's a Filter for That and More

<https://www.artic.edu/articles/773/inspirationtheres-a-filter-for-that-and-more>

02

Methodology

Eye-tracking study and data collection process overview.

Methodology

Moderated user testing sessions with **eye-tracking** (Tobii)

User Group:

- 10 participants (artists or visual art students, avg 11 years of art experience)
- Different age groups (18-50)
- Visited at least 1 museum in the last year
- Frequent museum visitors but not frequent museum website visitors
- They use internet and social media to look for inspiration (e.g. Instagram, Pinterest, Dribbble, Behance)
- None had visited the AIC's website before

Primary Persona



PAINTER

“

*Museums are my happy place.
I can always find something to
inspire my work there.*



32 years old



New York, NY

BIO

Angel is a painter from NYC with 11 years of experience in visual arts. She frequently visits museums in the city to find artistic inspiration.

MOTIVATIONS

- Seeing new exhibitions or collections as soon as they open.
- Being able to revisit the same collection for inspiration.
- Quickly browsing through acclaimed artists work when lacking creativity.
- Museums with large, diverse collections.

SKILLS

Mobile Apps	●	●	●	●	●	●	●	●
Social Media	●	●	●	●	●	●	●	●
Computer Literacy	●	●	●	●	●	●	●	●

NEEDS

Museum websites that have a lot of visual content to browse.

Easy browsability reminiscent of social media.

Easily discoverable artistic inspiration.

Websites that do not require a steep learning curve.

User Test

1. Pre-test interview to obtain information about the users' expectations and habits using museum online collections
2. Calibration of eye-tracking system
3. User test where the moderator asked the participant to use the online collection of the AIC's website (<https://www.artic.edu/collection>) for ten minutes and look for five artworks that could inspire their own creative work
4. Retrospective think aloud with the video screen recording including the eye-gaze.
5. Post-test interview to compile final thoughts and impressions of the website
6. Post-test questionnaire to gather feedback about the specific features available on the AIC's online collection. ("Please rate how important the following features are for the online collection: search, filters, tags and sorting options)

Data Collection & Analysis

Sources:

Gaze replays collected during eye-tracking

Think aloud data

Post-test questionnaire

Generated visualizations:

Heatmaps

Gaze plots

AOI (Areas of interest)

03

Findings

Overviews of discovered usability pain points after aggregation and analysis of collected data.

Key Findings



Impact of visual
elements



Suggested tags or
terms to kickstart
browsing journey



Available options
are overwhelming
without hierarchy



Unclear language
of the filters



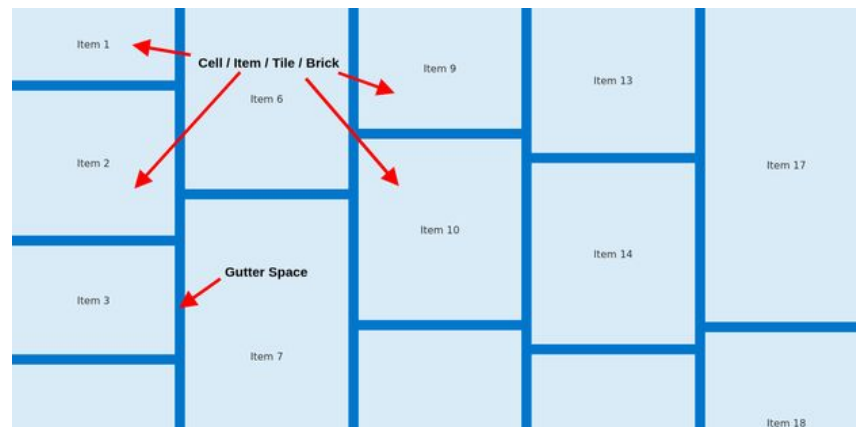
Browsing
behavior changes
over time

1. Browsing Behavior

What were users looking at and what does this tell us

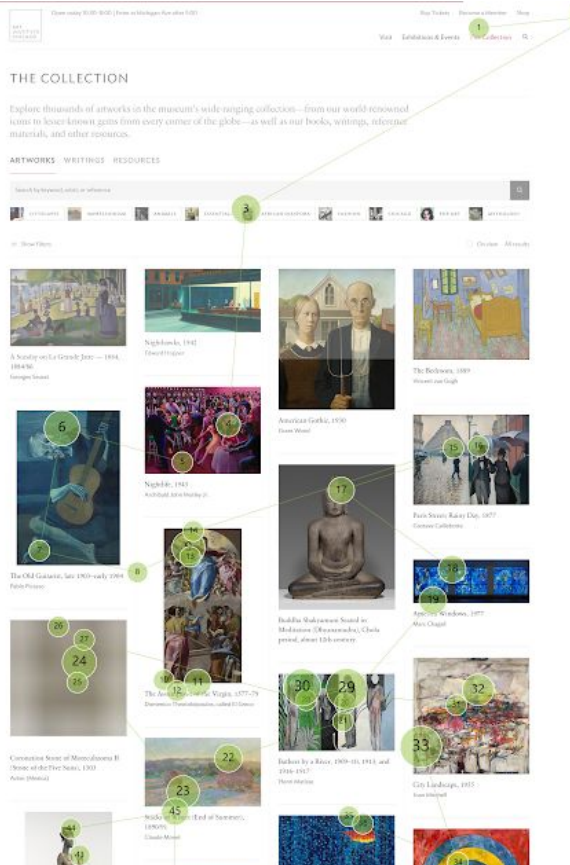
Importance of Visual Elements

*“**Masonry layout** is a [webpage] layout method where one axis uses a typical strict grid layout, most often columns, and the other a masonry layout. On the masonry axis, rather than sticking to a strict grid with gaps being left after shorter items, the items in the following row rise up to completely fill the gaps”. (Mozilla Developer CSS)*



The AIC Collection page, and other popular social media sites use this layout. This impacts how users view the page content.

Importance of Visual Elements



In observing the test participants, some patterns in their viewing behavior became apparent through the gaze plots:

- All test participants looked at the artwork image first and afterwards, if the artwork brought their attention, then they looked at the text below it.
- Zig-zag eye movement
- Skipping more items as they scrolled down

Importance of Visual Elements



- The attention on the **artwork images** takes place on the **landing page**, **search results page** and also on the **artwork page**.
- Users spend time looking at the images located at the top of the page.
- Some of the participants clicked to see the details of the artworks using the zoom feature.

Tags are Effective to Start a Browsing Journey

ARTWORKS WRITINGS RESOURCES



- All participants looked first at the tags under the search bar and afterward moved on scrolling the page down.
- Most viewed the first two tags (*cityscapes* and *impressionism*)
- Followed by *pop art* which may be due to the popularity of the tag thumbnail image

Tags are Effective to Start a Browsing Journey

Some of the users clicked on these **suggested tags** and commented on their usefulness to **start discovering the collection**:

“I like that they have these categories (...) I thought it was really helpful. It helps you to get a starting point, especially when you don’t know what you are looking for”.

“I actually was looking at those filters. I think it is helpful to have them up there (...) Having them with a little thumbnail, like an example of a filter, look at this by color, by date, by region”.

Focused and Unfocused Browsing

Focused Browsing

- Participants who realize what they are interested in
- Established familiarity with layout and features of page
- Using filters or searching for specific items using search bar

Unfocused Browsing

- Participants without clear direction
- Looking to get inspired
- Unfamiliar with the features of the page
- Scrolling on page

Search and Filters are Not Crucial

- Majority of the participants **did not use filters**
- Only 2 participants entered a search term in the top search box

“When I’m browsing I do not put any words in a search bar, I just keep scrolling down. (...) I’m quite sure the order doesn’t change (...) These are probably their most popular paintings. If I’m just for pleasure, I would sort of expect to have every time something different”.

“I saw them (filters), but I didn’t honestly take a look at them, because I was not looking for something specific. (...) For general browsing, I didn’t have a need to use the filters”.

“If I use these filters, I’m gonna be like not seeing stuff that I would otherwise see. If I was to look for something specific like modernist art from Italy that was orange, I would have used filters for it”

2. Browsing Features

Understanding which features are useful for browsing experience

Evaluating What is Useful for the User

Quantitative data was collected regarding the number of **fixations** and **interactions** with the different features during the user testing sessions. Data about the **usefulness** of these features were gathered in the post-test questionnaire where users rated them on a scale of 1-5 on how important the features were for the online collection. This data allowed the researchers to understand the elements that got viewed, that users clicked on, and that the users value.

Features Users Looked At & Interacted With

- Tags
- Search bar
- Some users did not notice Filters, but from available options, filters in the middle were most looked at
 - Medium
 - Classifications
 - Artists
 - Subjects
 - Styles

Logo
ART INSTITUTE OF CHICAGO

Buy Tickets Become a Member Shop
Top navigation
Visit Exhibitions & Events The Collection

THE COLLECTION

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ARTWORK SOURCES
Secondary navigation

Search by keyword, artist, or reference Search

CITYSCAPES IMPRESSIONISM ANIMALS ESSENTIALS Tags DIASPORA FASHION CHICAGO ARTISTS POP ART ARTS

Hide Filters

SORT
DATE
COLOR
CLASSIFICATIONS
PLACES
MEDIUM
ARTISTS Filters
SUBJECTS
STYLES
DEPARTMENTS

SHOW ONLY
 Public domain
 Recent acquisition
 Has multimedia
 Has educational resources
 On view

Selection

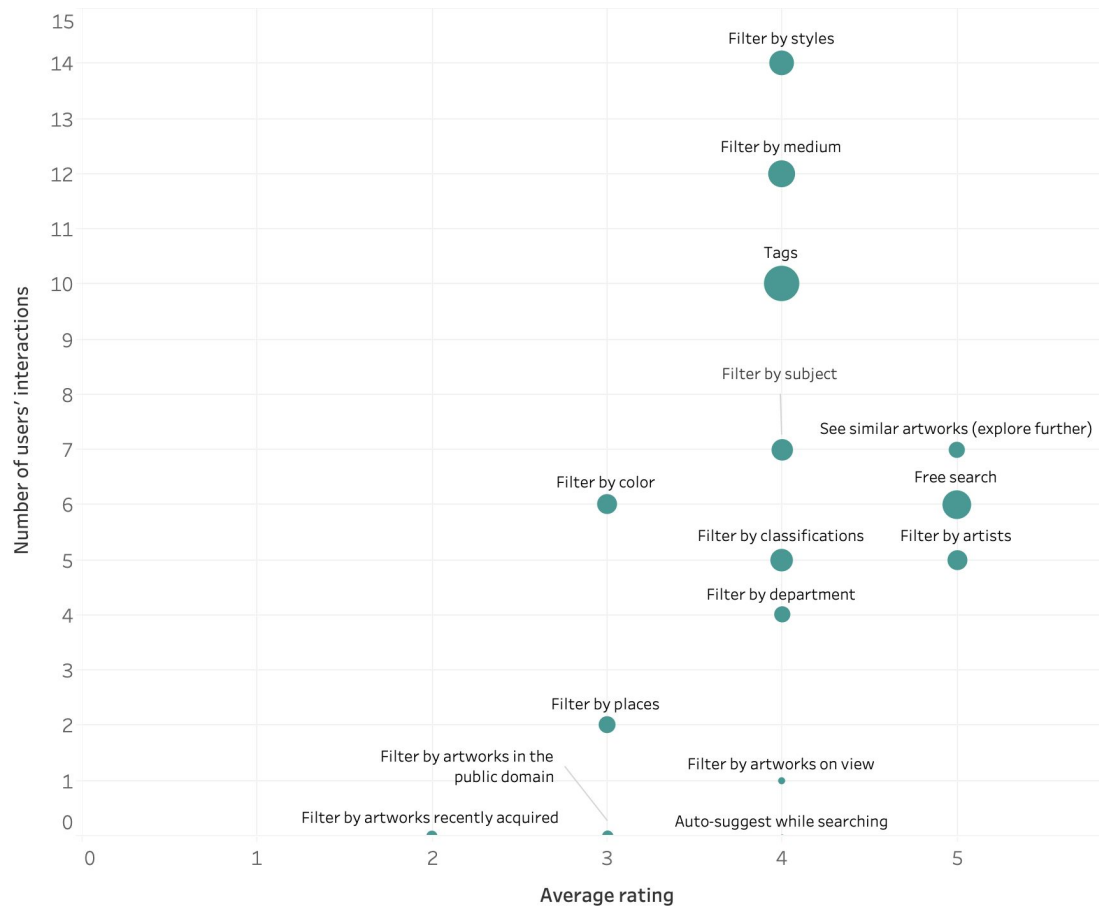
Starry Night and the Astronauts, 1972
Alma Thomas

The Bedroom, 1889
Vincent van Gogh

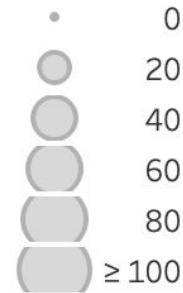
Buddha Shakyamuni Seated in Meditation (Dhyanamudra), Chola period, about 12th century

Many Mansions, 1994
Kerry James Marshall

Feature Importance



Number of fixations



3. Layout Effectiveness

Evaluating usability of the landing page and search results' layout

Discoverability Issues

Features lacking visibility:

- Filters on the search page
- Text and object metadata on the artwork page

ARTWORKS WRITINGS RESOURCES

Search by keyword, artist, or reference



 Show Filters



On view 55,199 results

Filter Categories are Unclear for Users

SORT ▾

DATE ▾

COLOR ▾

CLASSIFICATIONS ▾

PLACES ▾

MEDIUM ▾

ARTISTS ▾

SUBJECTS ▾

STYLES ▾

DEPARTMENTS ▾

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Filter categories were not clear for users:

“Classifications I don't really understand. Styles, I do understand”.

About the styles category: “This is probably something kind of ... everything kind of .. mixed together (...) this is definitely a geographic region... and this is definitely style (...) I feel this is something all mixed together. Confusing, so I didn't look carefully, I just clicked on the first one”.

Participants felt overwhelmed by the **number of available options**:

“I didn't understand for example Medium. Color, I didn't look for Colors. Maybe it is better to have these categories inside, deeper in the categories (...) So first you get one category and then you get more filters”

“It was a little confusing. It was too much to understand. This is very similar to any job portal that I've been to. They have these classifications, but somehow this is not what I expected. I thought there are too many filters to add, and then it is very filter based”

04

Key Takeaways

Future considerations for the Art Institute of Chicago in order to improve the overall user experience.

Recommendations

Guided Browsing for
Increasing Engagement



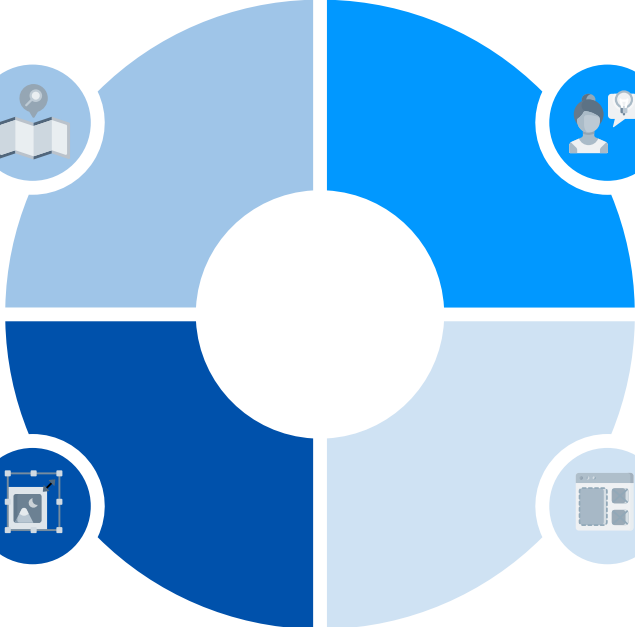
Personalized Browsing
Experience



Visual Content
Attractiveness



Clear Language and
Page Architecture



Guided Browsing for Increasing Engagement

- Make browsing features more prominent on the artwork page
- Guide users through a variety of available collections and show potential artworks they might be interested in
 - *Note: artwork suggestions are based on previous user activity*

Visual Content Attractiveness

- Attractiveness increased users' engagement
- Design of visual elements are crucial to enhance the perception of content and **increase user interest**
 - Home page
 - Artwork page
 - Thumbnails in tags
 - Other visual elements

Personalized Browsing Experience

- Different types of museum website users seek different browsing experiences
- Create **personalization** based on answer to question about website visit goals
- Cater experience to professionals vs inspiration seekers vs etc.

Clear Language and Page Architecture

- Avoid overwhelming and provide users with a **comfortable navigation experience**
 - Simple web-page architecture
 - Minimalist page design
 - Clear hierarchy of the feature options
- Plain language and clear phrasing help users **easily understand** and scan text