

# Artbot app engineers the discovery of art

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The Artbot app enables users to select their interests while scraping data from museum websites to find artists, movements, and events such as the MIT Grad Arts Forum at the Isabella Stewart Gardner Museum. Credit: Arts at MIT

Is it possible to engineer the discovery of art? In 2013, two graduate students in MIT's School of Humanities, Arts, and Social Sciences (SHASS) set out to answer that question, and today, thanks to their work

as research assistants—there's an app for that!

Artbot, developed by Desi Gonzalez and Liam Andrew in the HyperStudio research group of Comparative Media Studies/Writing (CMS/W), is a mobile website app that mines both user preferences and event tags to provide serendipitous connections to the local [art](#) scene.

## **Making unique connections that delight and inform**

"We're trying to make Boston one museum," Gonzalez says. "We were really interested in unearthing hidden gems, things you didn't realize you'd like. Hopefully, users will fall through the rabbit hole of connection."

Artbot enables users to select their interests from a list that ranges from medieval art to surrealism and from ancient history to photography. At the same time, the app scrapes data from museum websites to find artists, movements, and themes that link events to each other in various ways. Artbot then cross-references the data collected to generate event recommendations.

"For example," the students explained at a 2014 Humanities and Technology Camp, "let's say you see and are fascinated by the Amy Sillman exhibition at the Institute of Contemporary Art. Our tool might then connect you to an animation workshop led by a contemporary artist at the Peabody Essex Museum, inform you about a lecture about feminism and the arts at Harvard, or point you to works in the Museum of Fine Arts collection by other artists who integrate cartoon elements into compositions. While digital media can provide ways to discover art online, our project aims to put people directly in front of works of art."

"Each recommendation system has certain methods and assumptions baked into it, and determining what kinds of inputs belong can be more

of an art than a science," explains Andrew, who drew upon his previous experience as a software engineer to develop Artbot's recommendation engine. "At HyperStudio we hope to challenge users by making unique connections and new introductions, so long as users are ultimately delighted and informed."

## **Catalyzing engagement and understanding**

The ultimate goal, the students say, is to encourage a greater understanding and appreciation of art. "I came to this project with the goal to get content to people in new ways and get them to continue to engage with the art institutions," says Gonzalez, who previously worked on multimedia apps and interactive learning at New York's Museum of Modern Art.

The point is not to promote any particular museum, artist, or genre, but rather to encourage meaningful, sustained relationships to art museums in the Boston area. "We want people to realize there are more than one, two, or three museums," Andrew says.

Currently, Artbot highlights events at eight area museums: the deCordova Museum, Harvard Art Museums, Institute of Contemporary Art, Isabella Stewart Gardner Museum, MIT List Visual Arts Center, Museum of Fine Arts, Peabody Essex Museum, and the Rose Art Museum. Both developers say they believe Artbot could eventually expand to include more Boston institutions and perhaps even more cities.

## **The beauty of open-source**

Expansion should be easy, because Artbot was designed using open-source software and is itself an open-source application. "This is typical of what we do at HyperStudio," says Kurt Fendt, HyperStudio's executive director and a principal research associate in CMS/W. "We

make our work open-source so we can contribute to work going on in the field and to digital humanities at large."

HyperStudio, MIT's digital humanities center, is dedicated to exploring the potential of new media technologies for the enhancement of education and research in the humanities. Other HyperStudio projects include Annotation Studio, an online tool designed to enhance student learning through annotation of digital texts, images, and video resources; U.S.-Iran Relations, an archive that explores the diplomatic history between the two countries; and many other media-rich digital projects for teaching, learning, and research.

### **Artbot meets Trill**

Artbot is currently in beta testing and the developers are in talks with MIT startup Trill, an online entertainment website founded by Kathleen Stetson MBA '14 and others, to host and support Artbot's future growth. "We will be working with Trill directly, sharing our code as well as many of our technical challenges, resources, and research," say Gonzales and Andrew. "It will be up to Trill to decide how to integrate Artbot into their product; the current plan is to adopt some of Artbot's core technologies and gather insights from user testing."

The hope is that partnering with Trill will help popularize the app, but the developers stress that the Artbot code will remain available for others to adopt as well. "This is the HyperStudio approach" Fendt says. "We are primarily a research lab, rather than a long-term host for a public-facing project like Artbot. Our mission is to come up with very innovative approaches and development models that can be applied in different domains."

Indeed, the HyperStudio team has already begun spreading the word about Artbot and sharing what they've learned through the development

process. In April, Andrew and Gonzalez presented a paper on their work, "Playful Engineering: Designing and Building Art Discovery Systems," at the "Museums and the Web" conference in Chicago.

## Hands-on preparation for future careers

Just as importantly, working at HyperStudio has given the students hands-on experience employing the skills they learned in their CMS/W classes—applying the principles of design, for example, and conducting user testing—which both expect will prove useful in their careers.

"Artbot has really helped me with high-level product view," Andrew says. "I'm more familiar now with the process of building from scratch. It was very exciting for me personally."

Gonzalez agrees. "My ultimate goal is to lead digital initiatives at museums ... and I'm also looking at jobs with interactive design firms," she says. "This project has been a great way for me to prepare for the future."

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