



# MSU Students Partner with the Smithsonian and MSU Museum for Impactful Collaborations

The MSU Museum achieved the honor of becoming Michigan’s inaugural Affiliate of the esteemed Smithsonian Institution in September 2001. Since then, we have collaborated on numerous joint initiatives aimed at advancing research, generating new knowledge, and enhancing public engagement. This Affiliate status provides the Museum opportunities to engage in collaborative endeavors with the Smithsonian and fellow Affiliates, fostering initiatives that benefit MSU and our state, as well as the Smithsonian national programs.



*U.S. Senator Gary Peters visiting the “Knowing Nature: Stories of the Boreal Forest” exhibition*

In April 2023, the MSU Museum served as the first venue to host a new exhibition from the Smithsonian titled “Knowing Nature: Stories of the Boreal Forest.” This exhibition focuses on the biodiversity and global importance of the world’s northernmost forests through first-person stories, commissioned objects, interactive experiences, and exquisite photographic and video content. Moreover, this timely exhibition integrates themes of climate change, Indigenous perspectives, and the relationship between people and nature, taking audiences on a learning journey that starts with curiosity, builds empathy, and leads to action. “Knowing Nature” offers stories of resilience, strength, and hope in a changing world.

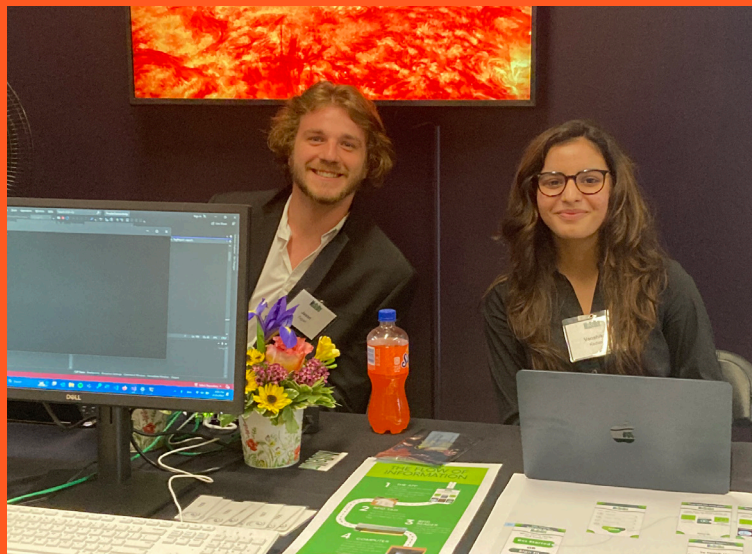
The Smithsonian selected the MSU Museum as the inaugural venue for the exhibition’s national tour because of the research and innovation that could uniquely happen here on our campus. In collaboration with multidisciplinary teams of MSU students, the Museum took on the task of designing and implementing solutions to two challenges pinpointed by the Smithsonian. How can we make the rich content of the exhibition accessible to individuals with limited or no vision? Additionally, how can we enable visitors of all ages to engage more deeply with the exhibition’s learning objectives? The technologies piloted here by the student teams will travel with, and further inform, the Smithsonian exhibition, elevating MSU’s national profile. With this Smithsonian partnership, our students have had career-advancing learning opportunities to use their disciplinary expertise to benefit museum goers across the country.



# An Exploratory Study to Advance Accessibility

To address accessibility challenges of the “Knowing Nature” exhibition, the MSU Museum collaborated with the Smithsonian Institution to pilot a digital concierge service tailored for visitors with visual impairments. To achieve this goal, the MSU Museum partnered with a group of MSU students to conduct an exploratory study, utilizing radio-frequency identification (RFID) technology that allows guests to customize the exhibition experience to meet their accessibility needs.

Over six months, the student group explored RFID technology, developed an app to relay gallery content to devices, and assessed its performance with research participants. This demonstrated RFID’s capacity to significantly enhance museum accessibility and visitor interaction. This pioneering initiative, showcased at events such as the Smithsonian National Education Summit and other professional conferences, will continue at the MSU Museum into fall 2023. Furthermore, the Museum leveraged this work to receive additional funding to extend the use of this technology to another exhibition, helping to achieve our goal to make the MSU Museum inclusive and welcoming to all. Currently, the app is under copyright review.



*MSU students who worked on the RFID technology to make the exhibition accessible*

**Project team:**

1. Chirag Bhansali, Computer Science and Engineering
2. Jason Fagan, Experience Architecture
3. Vanshika Kadian, Computer Science

# A Game for Learning

The Smithsonian Institution’s goal for “Knowing Nature” was to be accessible to younger audiences, especially K-12 students. The text heavy presentation and scientific depth of the exhibition posed a challenge to this goal. The MSU Museum assembled a second interdisciplinary team of students to create a smartphone application that enhances “Knowing Nature” by enabling visitors of any age to engage playfully with content and meet the exhibition’s learning objectives. Beyond this exhibition, the project explores the impact on audience engagement and learning of integrating games within an exhibition experience. The “Knowing Nature” game features resource-based puzzles, inviting players to navigate the Boreal Forest, attempting to minimize threats while understanding the subtleties of environmental decisions. Levels begin with a question, offering hints linked to exhibition panels. Each scenario requires the best choice, with incorrect answers clarified and an opportunity to retry. Occasionally, even optimal choices impair environmental health, inciting reflection. This new game, available for free to visitors as the exhibition tours nationally, can be downloaded from both Apple’s App Store and Android’s Play Store.



*Jeff Wells, Vice President for Boreal Conservation at National Audubon, with MSU students who worked on the exhibition-oriented game*

**Project team:**

1. Sean Hughes, Games and Interactive Media
2. Emily Paterson, Professional and Public Writing and Experience Architecture
3. Nicole Stocks, Games and Interactive Media
4. Jamily Ramos De Lima, Integrative Biology,
5. Rachel Tiv, Games and Interactive Media