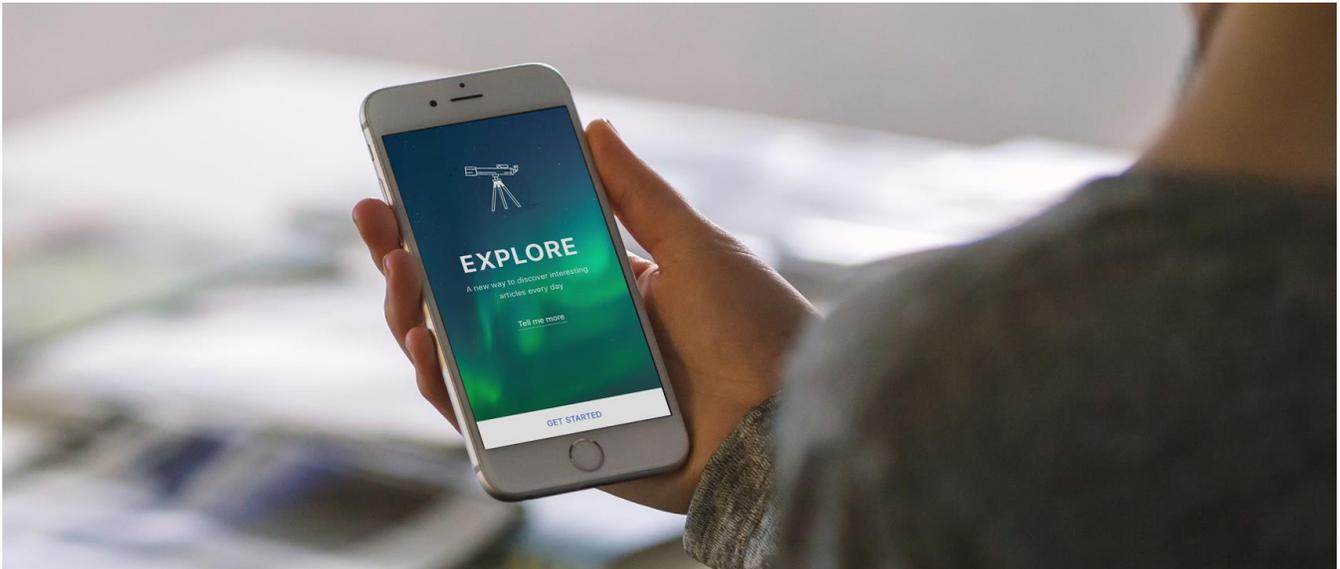




Innovation History: Using Mystic Seaport's Collections to Develop Technology Tools



Photograph by Benjamin Child (<https://unsplash.com/photos/e8jk-gruFRs>) [CC0], via Wikimedia Commons

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Subject: Technology

Grade Levels: Grades 11 /12 or in an Innovations Setting

Time needed: 2 – 45 minute sessions

Students in computer science are expected to carryout explorations, create computational artifacts and write about their artifacts. To facilitate the activities, students need a broad background in the analysis of artifacts, including how to undertake research/explorations. In this lesson, students examine some artifacts from Mystic Seaport, tell a story about the artifacts, write 3-5 questions about the artifact and use the questions to create a computational artifact in the form of a mobile app quiz, using App Inventor.

Innovation History: Using Mystic Seaport's Collections to Develop Technology Tools

Content Standards:

- INQ 9–12.10 Construct arguments using precise and knowledgeable claims, with evidence from multiple sources, while acknowledging counterclaims and evidentiary weaknesses.
- INQ 9–12.11 Construct explanations using sound reasoning, correct sequence (linear or non-linear), examples, and details with significant and pertinent information and data, while acknowledging the strengths and weaknesses of the explanation given its purpose (e.g., cause and effect, chronological, procedural, technical)
- INQ 9–12.12 Present adaptations of arguments and explanations that feature evocative ideas and perspectives on issues and topics to reach a range of audiences and venues outside the classroom using print and oral technologies (e.g., posters, essays, letters, debates, speeches, reports, and maps) and digital technologies (e.g., Internet, social media, and digital documentary).

Compelling Questions:

- What can 21st century persons learn from 19th century artifacts?
- How does the sea impact the lives of people who reside near it?

Supporting Questions

- How does the value of an artifact depend on the time of its creation?
- What do words, describing artifacts, say about the time and events of their creation?
- What is the best way to present new knowledge?

Objectives: Students will...

- Select 3 – 5 artifacts from <http://educators.mysticseaport.org/search/?page=&q=&rts=a> that have no written or descriptive content (short descriptions & catalogue descriptions are O.K.).
- Examine the artifacts and write content based on the observations of each artifact
- Write down 3 – 5 questions about their content.
- Create a quiz app using their questions.

Materials/Resources needed for students:

Source #1: Source of artifacts:

<http://educators.mysticseaport.org/search/?page=&q=&rts=a>

Innovation History: Using Mystic Seaport's Collections to Develop Technology Tools

Source #2: App development process:

<https://course.mobilecsp.org/mobilecsp/>

Source #3: App Inventor: <http://appinventor.mit.edu/explore/> , Scratch (<https://scratch.mit.edu/>), AppLab (<https://code.org/educate/applab>) or other computational tools.

Inquiry Activity

- Students will visit the Mystic Seaport resource site (<http://educators.mysticseaport.org/sets/>) and choose three to five artifacts that enable them to tell a story.
- They will write content for each artifact based on their close reading observations, and also write their story. After that, students will develop 3 – 5 questions to assess a reader's understanding of their story.
- The artifacts, their story, and the questions will be used to develop an App Inventor quiz app that can be used to assess new knowledge about computer science. (see worksheet for detailed activity).

Communicating Conclusions/Taking Informed Action

Communication/Action #1: Students indicate their 3-5 selected artifacts.

ASSESSMENT: Will focus on students' description of each of their 3-5 selected artifacts and documentation of the content of each artifact and the story the artifacts tell. Must include the purpose of each artifact and how the selected objects fit together to form a story.

Communication/Action #2: Students will create an app using 3-5 questions they wrote on their artifact.

ASSESSMENT: Assessment will focus on the development of a functional app with at least three questions that pertain to their story.

Extra credit: Will focus on research of whether similar apps exist, their cost and setting an appropriate (meaningful) cost for their app.

Source Materials

Websites:

- <http://educators.mysticseaport.org/search/?page=&q=&rts=a>
- [Mystic Seaport for Educators](#)