

Lesson #4: App Inventor- Community App



Overview:

This lesson was developed to give students the opportunity to put all of their newly learned knowledge into developing an original app to help their community or a person/s in their community.



Student Agency:

- Students will be able to develop their very own app based on a topic that they feel will benefit their community. Topics will range from educational, environmental, animal activists, humanitarian efforts, and many more.



Pathway: Coding/Computational Thinking



Duration: This lesson will take 1-4 hours



Essential Question:

- How can apps be used to make our community a better place?



Objectives:

- Students will be able to create an app to help benefit their community or school.

 <u>Competencies & Practices</u>	 <u>Student Artifacts/Evidence</u>
Collaboration	Students will collaborate with each other to work through problems that arise while completing their first apps.
Simulation	MIT App Inventor simulates what an app will look like on an emulator or tablet.
Abstraction	Apps use abstraction to remove complex details such as coding so it is user friendly.



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Algorithms/Procedures	Students program a series of algorithms so that the app knows what it should do next.
Test and Debug	Students will be testing and debugging all of their apps in order to make sure the work seamlessly.
Reuse and Remix	Students can remix their apps to have their own unique pictures, sounds, and layouts.



Teacher Preparation:

Teachers should have a list of problems that their community or school is facing for students that are struggling to come up with an idea.



Materials for Students:

- Students will need a computer with access to the internet and a Gmail account.
- It would be useful to have an Android tablet or phone (optional)



Students Prior Knowledge:

Students should be able to create apps using multiple features and functions.



Concepts:

- [Storyboard\(wireframe\)](#)- layout of an app to demonstrate how it will look.



Habits of Mind:

- Persisting
- Managing Impulsivity
- Applying Past Knowledge to New Situations
- Creating, Imagining, Innovating
- Thinking and communicating with clarity and precision
- Listening with understanding and empathy.



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Lesson Sequence:

1. **Anticipatory Set:** Introduce this lesson by playing the following video.



Video Connection: <https://www.youtube.com/watch?v=e2Oynq-mOLk>



Questions to Ask Students:

- Why is research and wireframing so important to app development?

Without research, you may take time to develop an app that already exists.

Wire frames allow the developer to show their ideas to a design team or funder.

2. **Engaging Activities: Engaging Activities:**

- a. **Brainstorm:** Students will have the opportunity to create a wireframe to represent the original app that they would like to create.



Teacher Tip: Allow struggling students the opportunity to look at the tutorials that are available. They can use an existing tutorial and edit it to meet their goal.

- b. **Create:** Students will create an app that will benefit their community or school.

3. **Share Out:** Give students an opportunity to show their apps to each other. It is fun to have students that created an app for a class, show the teachers who teach the subject.
4. **Wrap Up:** Have students give feedback on their experience. List things that they enjoyed and things that they would change while using MIT App Inventor. Use the feedback to make adjustments to your lessons.

 Assessment Questions	Yes	No
Students can design an app using a wireframe.		
Students can create an original app to help someone.		



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Activities for Relearning:

Student can take a previously created app and edit the content to benefit someone in their community.

Activities for Enrichment:

- Students will be assigned a real company and will be told that they were hired as a public relationship specialist. They will need to create an app to help the company show how they give back to the community.
 - Example: Berkshire Hathaway donated \$3.6 billion to the Bill & Melinda Gates Foundation in 2019. A student could create an app for Berkshire to spotlight the impressive philanthropic donation.

Resources for Teachers:

- <http://apptology.com/blog/tag/mobile-app-storyboard/>
- <https://www.youtube.com/watch?v=e2Oynq-mOLk>
- <https://www.forbes.com/sites/willyakowicz/2020/12/29/the-top-10-philanthropic-gifts-of-2019/#1c9ea6c37946>



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