

BRAIN HACKERS APP DEVELOPMENT CURRICULUM

Lesson 4

Talking Picture App – Canvasses, Sprites and Hotspots

SUMMARY

This lesson introduces canvasses and the use of sprites. For now, sprites will be used to create hotspots on an image that behave like a button. An App will be created that presents an image and when a user taps hotspots on the image, the app will speak. This exercise demonstrates the practice of finding ways to represent important information both visually and verbally.

ASSUMPTIONS

It is assumed that students will be able to use the Internet to find images.

IMAGES FOR TALKING PICTURE APP DEMONSTRATION

Students will need an image with a world map. For the demonstration, it is preferable that the map be a silhouette or a geological map, as opposed to a political map with countries, borders and other political details marked. Students will also need to find images showing the following four locations: Mount McKinley/Denali; Death Valley; Mount Aconcagua and the Valdes Peninsula.

DESIGNER WORKSPACE

- From the Drawing and Animation components, drag a Canvass onto the screen

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Key Concepts

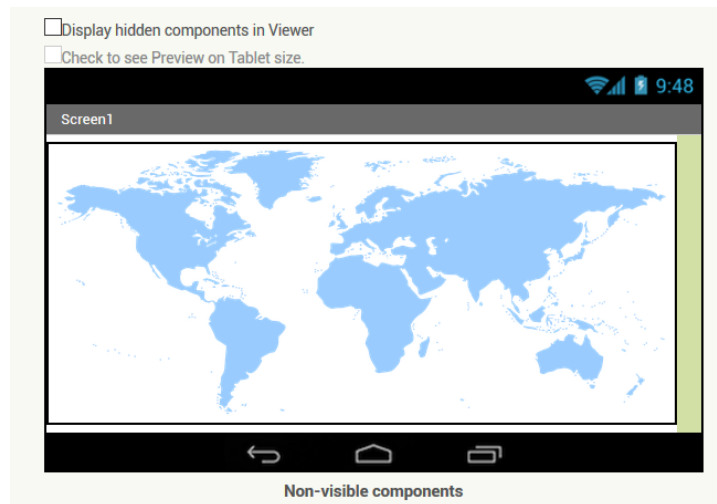
Canvass – a panel which can be touch sensitive and may allow drawing using the phone's touch screen

- Set both the Height and Width to “Fill Parent”

Key Concepts

Parent – a higher level component, such as the overall visual display, that incorporates lower level components, such as features placed on the visual display

- Set the Background Image to be the image of a world map – NOTE: you may need to upload the image.
- Adjust the ScreenOrientation to “Landscape”



FIGUREB. As shown, the screen should be in the Landscape orientation

- From the Drawing and Animation components, drag an ImageSprite onto the Canvass
 - Set the Picture to the image of Mt McKinley/Denali
 - Adjust the size of the image

Key Concepts

Sprite – a two-dimensional image that is incorporated into a larger graphic, and may provide the basis for operations by a user

- Repeat the previous steps placing ImageSprites on the map with the pictures for Death Valley, Mount Aconcagua and the Valdes Peninsula
- Insert four Text-to-Speech components – NOTE: there will be a Text-to-Speech for each ImageSprite

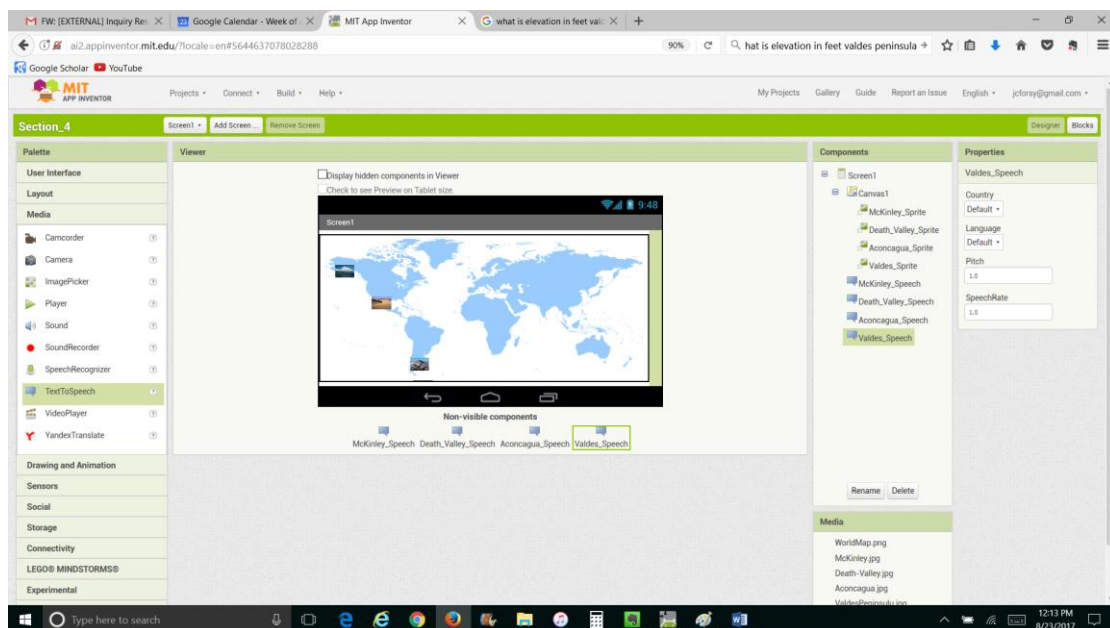


FIGURE 2. This image shows how the Designer workspace should appear.

BLOCKS WORKSPACE

- For the ImageSprite with the picture for Mount McKinley/Denali, insert a **when ____ .Touched do** block – NOTE: this will allow the image to function like a button, with the app responding when it is touched
 - o Insert a **call ____ .Speak** block
 - Attach the text string, “Mount Mckinley or Denali is the highest mountain in North America at 20,310 feet elevation.”

- Repeat the above step for Death Valley with the text, “Death Valley is the lowest spot in North America with at 282 feet below sea level.”
- Repeat the above step for Mount Aconcagua with the text, “Mount Aconcagua is the highest point in South America at 22,841 feet elevation.”
- Repeat the above step for the Valdes Peninsula with the text, “The Valdes Peninsula is the lowest spot in South America with an elevation of 131 feet below sea level.”



FIGURE 3. This image shows how the Blocks workspace should appear

ACTIVITY

For the assigned topic, create a Talking Picture app by finding a background image to serve as the canvass and then, adding smaller pictures that when tapped, tell about details related to the topic.