

StoryQuest: An Interactive Storytelling Kit

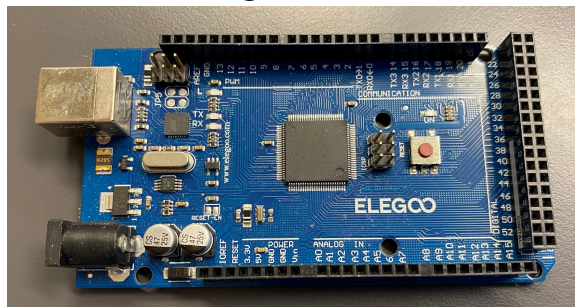
StoryQuest - What is it anyways?

StoryQuest is an educational tool that enables students to tell stories and present information through new and exciting mediums. Students can leverage technological tools to tell more engaging and interactive stories without needing technical knowledge.

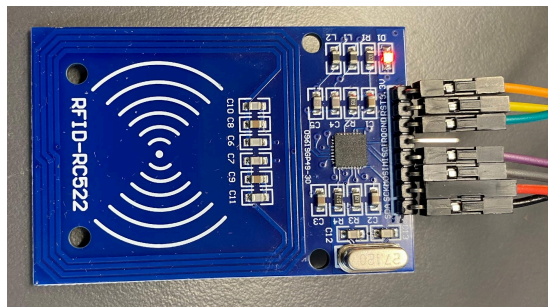
What's included in the Kit

The kit includes a link to download StoryQuest software, plus these physical objects:

4 Arduino Megas



4 RFID Readers



30 Dupont Wires



25 RFID Tags



Students will also need access to a computer, either Windows or Mac.

What can I make?

The possibilities of StoryQuest are endless. The premise is using RFID tags, which when scanned on a reader, will play any audio file. One great way to use the kit is to create a story with characters, and attach tags to each character. Then, when you place your character on a reader, the character will speak!

Need some concrete ideas? Here are a few:

- A board game! Character pieces (or game cards) in the game will be able to speak to players, making the game more engaging. Maybe a climate change game that takes students through the impacts of climate change, replacing a traditional medium like a slide deck.
- A diorama! Students create a traditional diorama, but the characters within the diorama can speak to viewers and tell their own story. Another similar option is a doll house with speaking characters.

The great part about this kit is that teachers can use it to supplement any topic - use it for more interactive presentations on science topics, make students write a new fairytale and have characters say the dialogues. The possibilities are endless!

What would students learn?

By using StoryQuest, students will be able to learn a lot of new skills, and apply old skills to new contexts. StoryQuest encourages the use of characters to tell a story, so students will gain experience writing formal stories and scripts. They will hone their research skills and learn to translate knowledge to interactive experiences. By building the physical project (like board game or diorama), they will gain building experience and have fun with art. As StoryQuest already includes the software and technical logic that would otherwise be difficult for children to implement, students will gain exposure to technologies, such as Arduino, at a younger age without having to write any code.

For students already familiar with various technical tools, encourage them to add other components, such as touch-sensors or keypads to their Arduinos, or 3D printing their characters.

What does the Teacher need to know?

The goal of StoryQuest is to enable technologically interactive storytelling experiences for children, while minimizing technical knowledge needed from the Teacher. The StoryQuest guide includes a list of all instructions needed to set up the readers, so Teachers need no prior experience with Arduinos to use this kit.

StoryQuest: Getting Started

Wiring the Arduinos and Readers

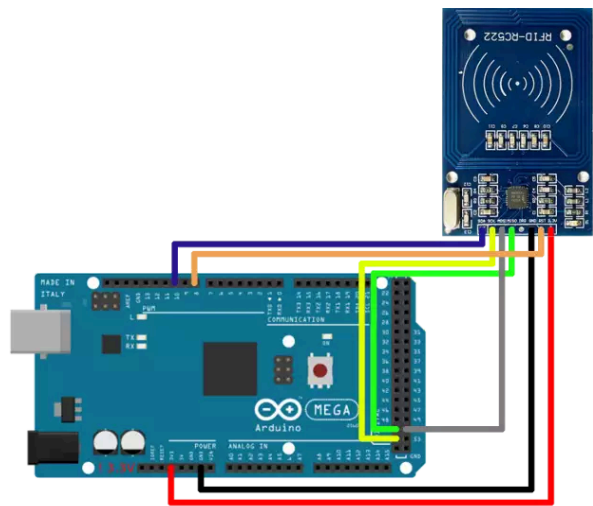
In order to use StoryQuest, you need to register your Arduinos on the main page. Wiring the Arduinos and RFID Readers is simple. Here is a diagram and step by step instructions showing how to wire the two together - you wire one reader with one Arduino.

Here are the connections you must make between an RFID reader and Arduino Mega:

Pin on RFID Reader	Corresponding Connection on Arduino Mega
SDA	D9
SCK	D52
MOSI	D51
MISO	D50

IRQ	No connection needed.
GND	GND
RST	D8
3.3V	3.3V

Your board and reader should look something like this:

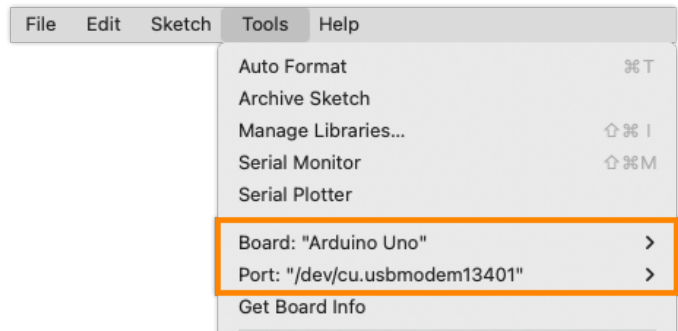


Connect the remainder of your readers and Arduinos together.

Registering Arduinos

The easiest way to register your Arduinos is by using the Arduino app. Start off by downloading Arduino IDE software.

Go to Tools > Port. There, you can see the port of your Arduino. Make note of this port, and then paste the name of the port on the Register Arduinos page.



Registering Characters

Once you are done registering your Arduinos, navigate to the Register Characters page. On that page, you will see a list of characters that have already been registered, and you will have the option to register more.

To register a character (which has an RFID tag attached to it), simply bring the character in contact with a Reader. StoryQuest will detect that you have scanned a new character, and prompt you for a character name.

Tag detected. Give this tag a character name.

Submit Name

Character names must be between 1 and 24 characters, and must be unique. If your character name is invalid, you will get a warning.

To change a character's name, simply delete the old name (by clicking on it), and re-scan the character - you will be prompted for a new name again.

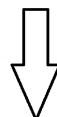
The following characters have already been registered:

Bob



The following characters have already been registered:

Bob



Register New Characters:

Tag detected. Give this tag a character name.

Bob'sNewName

Submit Name

You can register as many characters as you want. Once you are done, navigate to Register Sounds.

Registering Sounds

In order to register sounds, please make sure you have registered at least one character. Ensure your sound files are in a folder named "audios" in the same directory as your StoryQuest application. Your sound files must be mp3 files. The Register Sounds page contains a table with all your characters, and informs you which reader they are linked to.

To upload a sound file, simply click 'Choose File' and choose the file you want to play when you tap the character against the reader. When you are done adding sound files, press Save Changes. If you want to change a sound file, just click 'Choose File' next to the existing name, and re-save.

Character	Reader	Sound File
FishyTheFish	reader1	fish_intro.mp3 <input type="button" value="Choose File"/> No file chosen
CliffordTheBigRedDog	reader2	<input type="button" value="Choose File"/> No file chosen

Save Changes