Possible Futures

JFF

CENTER FOR THE FUTURE OF ARIZONA

Facilitator Guide:
How to Prepare for This Lesson

STEMPLORATION

Information Technology

Lesson 7—Wireframing 101

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About This Facilitator Guide

This facilitator guide provides the details to help you enable students to complete the lesson **Wireframing 101: What Does It Take to Build an App?**

Instructions for using the SCORM files in Blackboard and Canvas can be found at this link. Instructions for using Flipgrid can be found in this guide.

While this lesson is designed for online learning, you will find information in this guide about In-Person Learning Adaptations to enable you to help your students who may be completing this lesson in the classroom instead of online. Callouts will provide guidance on how to adapt various activities for in-person learning.

Before You Get Started

Before you get started with this lesson, please be sure to:

- Read through the facilitator guide.
- Download SCORM. (You will only need to add SCORM once. After that, you will be set to use SCORM for any remaining lessons.)
- Review the Rise lesson.
- Prepare any resources needed for the lesson.
- Set up Flipgrid.

Flipgrid Instructions: Setting up Flipgrid

Both educators and students will need to set up Flipgrid for use.

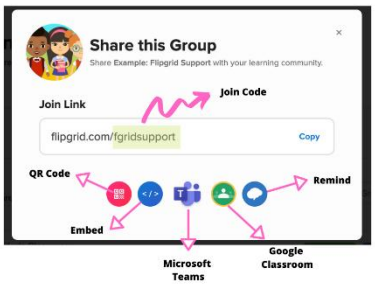
Educator Step-by-Step Guide

Set up your free educator account at Flipgrid.com and create a **Topic** for the class. Please copy and paste the heading from the facilitator guide that pairs with the Flipgrid so that the Topic aligns with student expectations. A Topic is a discussion prompt for students. Students respond to the Topic with a short video using Flipgrid's fun, social-media-style camera. Students can watch and comment on videos from peers, with the educator in complete control.

1. Create a Topic

   Topics start the conversation in Flipgrid. Just write a prompt and include anything for students to review before responding, such as videos and links.

   When you create a new Topic or Group, a Join Code is automatically created for it. To share the Join Code to your Topic or Group, log in to your educator account and select the blue Share button to access your Join Link and Code, as well as other ways to share your discussion.



   The Join Code also creates a link. Copy and paste the link in emails, texts, social media, Google Classroom, or other websites to invite your students to join! You can download/print QR codes for students to scan on the Flipgrid app. The Flipgrid app and flipgrid.com offer a QR scanner on the home page.

   The student receives the Join Code in the form of a link, a code, a QR code, or a guest username and password. The student can then enter a student username or a password.

2. Set Access and Share

   After creating the Topic, choose how students will access it. If they have email addresses, add the domain (everything after the @ symbol in their email address). If students do not have email addresses, create usernames for each student. Invite families and guests by adding a guest password.

   Share the Topic by using one of the Share buttons or copy and paste the unique Join Code wherever you connect with your community.

3. Students Respond

   After entering the Join Code, students gain access by logging in via email or username.

   Students can share their voices by recording a short video with Flipgrid's fun, simple, and powerful camera. It's packed with everything they need to tell their story, including text, emoji, inking, boards, screen recording, and the ability to upload clips!

References:

Educator Step-by-Step Guide
Educators: A Teacher's Guide to Flipgrid [YouTube]
Educator Guide to Flipgrid

Student Step-by-Step Guide

A student can create a video to submit to the educator in a few easy steps!

1. Locate the Join Information From Your Educator

Your educator would have given you one of these ways to join the discussion:

- A Join Code (e.g., FGrid3567 or a591dc5d) or a QR code
- A Join Link (e.g., https://flipgrid.com/FGrid3567 or https://flipgrid.com/a591dc5d)
- If you don't have a school-provided email, then a unique username or guest password

Flipgrid works on most web browsers and mobile devices. Microsoft Edge or Google Chrome is recommended for the best web experience. For easy access to Flipgrid, download the Flipgrid extension. On mobile devices, download the free Flipgrid app for iOS and Android devices.

2. Join the Discussion

Get the educator's discussion by using the link or code provided by your educator in Step 1.

- If you have a Join Link, select that link.
- If you have a Join Code, do either of these:
  - Go to your web browser and enter https://flipgrid.com. You'll see an area to enter a Join Code. Type the Join Code and press Enter on your keyboard.
  - On a mobile app, enter the code.
- If you have a QR code, scan the QR code with your device camera or the Flipgrid mobile app.

You'll see a prompt to log in. Enter a student username or a password. If your student username or password is not working, be sure to double-check the case and space sensitivity.

Tip: If you're prompted to log in, choose Google if your school uses Google Classroom, Docs, and Drive. Choose Microsoft if your school uses Word, OneDrive, or Microsoft Teams.

3. Record and Submit

Once you've joined, you'll see your educator's Topic or discussion prompt. Follow the instructions and when you're ready to record, select the red Record a Response button or the Flipgrid logo for the camera to start.

When you're in the Flipgrid camera, you can record a video in these three easy steps:

- Tap to record: Tap the record button on the bottom to start. Add fun stickers, filters, text, and more. Tap the arrow on the bottom right to advance.

 Review your video: Trim, split, rearrange, or add more. Tap the arrow on the bottom right to advance.

 Submit your video: Edit your cover image and name, add a title, or attach a link. Then submit!

The Flipgrid camera offers a lot of fun and creative ways for you to share your ideas and voice! Check out all the camera features here. Learn how to import a custom video or how to include a screen recording.

References:
Getting Started: Students
Getting Started with Flipgrid - Students [YouTube]

Using Editable PDFs

Most lessons include the use of an editable PDF for students to capture responses to questions and other activities.

Guiding language is included in the lesson to help students access and use the editable PDFs where they appear.

Students who will be using Chromebooks will need to use the Print to PDF function to save their editable PDFs to their device. Here's how to do this:

1) Open the editable PDF and select Ctrl + P.
2) Open the file destination where the file will be saved to.
3) Select Save as PDF.
4) Select Print. Your document is now "printed" as a PDF file, which will save your work.

PDFs cannot be submitted via the Rise activities. If you plan to collect these documents for career planning portfolios or grading, you will need to coordinate that with your students.

To view a video on using Flipgrid and editable PDFs in the lessons, select this link.

“Ask an Expert” Interviews (Optional)

You may choose to include an “Ask an Expert” interview in this lesson.

An interview provides an opportunity for students to talk with and ask questions of experts who work in various professions to learn about their career journeys and current job roles and responsibilities and to glean valuable insights.

Additionally, interviews also provide the following benefits:

- real-world information about careers
- an awareness of the workplace habits and interpersonal skills needed to succeed in any job
- further encouragement to go to college or postsecondary training or apprenticeship and get ready for the career of their choice
- an understanding of the fact that each person’s career journey is unique and that most people encounter obstacles and challenges that they must overcome to reach their goals

When selecting experts to participate in the small group interviews, look for “down to earth” people who you think are good speakers and who would be comfortable talking to young students, ages 12 to 14. An ideal ratio is one expert for every five students.

There are two options that can be used if you choose to use an “Ask an Expert” interview:

- Schedule a Zoom/Skype call with an expert in the field.
- Find an existing YouTube video of an expert to share with students.

In-Person Learning Adaptation: For in-person learning, project/share the Zoom/Skype call with an expert with your class. YouTube videos may also be projected/shared in person. You can consider facilitating further discussions on the key takeaways from the session and/or a specific topic discussed in the session.

Review the following resource for additional information:

Career and College Exploration Experiences: Planning for Success

How to Implement This Unit

For students to get the most value from this unit, please plan on implementing all lessons in this unit, in sequential order.

When it may not be possible to implement the entire unit, we recommend implementing the following lessons to support optimum student learning based on the time available:

- Recommended combinations: Choose any of the following:
  - Lesson 4 as a stand-alone lesson
  - Pairs: Lessons 2 and 3, Lessons 4 and 6, Lessons 3 and 4, and Lessons 4 and 5
  - Trios: Lessons 3 through 5 or Lessons 4 through 6
- Mini four-lesson unit: Lessons 1 and 2 and Lessons 4 and 5
- The Introduction to Information Technology unit: Lessons 1 through 3 in sequential order

Alignment of Learning Outcomes

The program learning outcomes for Possible Futures 2.0 are as follows:

A. Gain awareness of and exposure to a wide array of careers.
B. Increase self-awareness and begin to form one's potential occupational identity.
C. Develop employability skills.
D. Develop foundational technical skills as appropriate.
E. Be positioned to make more informed educational choices.
F. Transition to high school with an actionable plan for next steps.

The curriculum learning outcomes for the Information Technology unit are as follows:

1. Students learn the basics of coding and computer programming.
2. Students explore career options within the information technology industry.
3. Students identify their strengths and interests in the field of information technology.
4. Students connect their strengths and interests in the field of information technology to potential careers.
5. Students explore local labor market data and education opportunities for careers in the field of information technology.

The Arizona Career Literacy Standards for grades 5 through 8 can be found at this link.

This lesson's learning outcomes align with the program learning outcomes (PLOs), curriculum learning outcomes (CLOs), and Arizona Career Literacy Standards (CLSs) as follows:

CLOs	Lesson Learning Outcomes	PLOs	CLSs
1	Use wireframing to create a design for an app for mobile devices.	C, D	2.0, 5.0

Tracking Completion of Lessons

If you are using SCORM Cloud or Canvas with the lessons in this unit, completion tracking options are available. If you are not using either platform, please determine if and/or how you plan to track completion of lessons by students.

Lesson 7 Components

Guiding Question

The guiding question is intended to provide a focal point for each lesson. Here is this lesson's guiding question:

- **What Does It Take to Build an App?**

Lesson Overview

This section provides an overview of the lesson. In this lesson, students will learn about how to model their ideas to build an app. The lesson starts with an activity where students learn how modelling their app is related to storytelling. Students then design a storyboard (a rough sketch of sequence of screens) to show what the first few screens of their app would look like, with the example of Pokémon GO as a reference.

Vocabulary in this Lesson: Flip Card Activity

Students should use the flip card activity to familiarize themselves with key vocabulary terms and definitions for this lesson.

- **Wireframing:** Drawing rough sketches of an app on paper to show the design and function of each feature
- **Creative:** Having or showing an ability to make new things or think of new ideas
- **Artist:** A person who is skilled at creative arts such as drawing, sculpting, music, writing, and filmmaking
- **Features:** An interesting or important part, quality, or ability
- **Linear:** Going from one thing to the next thing in a direct and logical way

Learning Targets

By the end of this lesson, students will be able to:

- Use wireframing to create a design for an app for mobile devices

How Does This Story Go?

Through this activity, students think about how storytelling relates to coding. Students see a set of comic strips that are labeled A, B, C, D, and E and they must discover how the comic strip should go. They do this by selecting the correct order in a multiple choice.

In-Person Learning Adaptation: For in-person learning, the facilitator can project this comic strip in the class and get student inputs on what they think is the correct order and why having an order is important.

Storyboarding and Designing Wireframes

This section focuses on the importance of storyboarding the app on paper before beginning the actual coding process of the features. To learn more about storyboarding, the students are asked to watch a video, Storyboarding For People Who Can't Draw (Like Me!) : FRIDAY 101. While watching the video, the students must consider the following questions:

- How are storyboards used?
- Why don't you have to be good at drawing to create storyboards?
- Why would we use storyboarding to map out an app?

In-Person Learning Adaptation: For in-person learning, after completing the video, the facilitator might discuss whether or not students were able to find answers to the questions that they were asked to think about.

Wireframing 101: Modeling

In this section, students will practice some of the features of wireframing by using a popular app, Pokémon GO. This app gained importance for helping people get out of the couch and begin exercising.

The materials students will need for this sketching activity are as follows:

- paper (Students can use plain paper, notebook pages, or index cards.)
- pen or pencil

The students will then begin reviewing different screens from Pokémon GO using what is called a Tab activity on Rise. The students will navigate through the activity by selecting each of the tabs with titles to reveal more information.

The students will see the following instructions on Rise:

“Select each of the tabs to see a screen from Pokémon GO. Look carefully at what you see on the screen and then sketch what you think a wireframe of that page would look like.

Once you have completed your sketch, select the last three tabs to see a sample of each wireframe to compare to your own work. How similar or different are they?”

In-Person Learning Adaptation: For in-person learning, the facilitator can project these images one by one on-screen and have students sketch their wireframe page and then reveal the samples.

Wireframing Your App

In this section, students begin to wireframe pages for their own app, starting with a storyboard that outlines the user experience. Students will begin drafting three working pages of their app on any piece of paper.

The following instructions are displayed on Rise:

“Thinking about what you want your app to do and what you want it to look like, sketch a wireframe for three screens. Remember to think about what your app will do. Consider text, buttons, images, menus, etc.

Remember: You don’t need to be an artist! Just try to show which elements you will include and where they would go on the screen.”

Students are prompted to watch the video Mobile Application Design: Paper Prototype Video for some inspiration.

The students need to refer to their wireframing sketches in the next lesson, **Coding Your App**.

In-Person Learning Adaptation: For in-person learning, the facilitator can project the video in the class before the students begin the sketching process.

Flipgrid Activity: Let's Talk About It—What My App Will Look Like!

In this section, students will use Flipgrid to share their wireframes.

The students will see the following instructions on Rise:
"Show off your wireframe sketches and briefly explain how each page will function in a short Flipgrid post."

Remind students to **include your class hashtag in the title of the post.**

Thinking About Your Future

At the end of the lesson, students will see the following statement on Rise: "You've been exploring storyboarding and wireframing. In this lesson, you looked at some examples and then began to sketch out the wireframe for your app."

Before moving on to the next lesson, ask students to think about the following questions:

- How did you feel about sketching the screens for your app? Excited? Intimidated?
- Do you enjoy the idea of being focused on the details of how people interact with your app?

Career Pathways

At the end of each lesson, students will be reminded that it's never too soon to start exploring future career options! Encourage students to check out this resource to help them learn about

- various jobs in the software development field,
- projected growth, and
- potential earnings.

Students can access the resources at this link: Pipeline AZ Career Search.

Lesson Completion

At the end of the lesson, students will see the following message on Rise:

"In future lessons, you will learn more about refining your app and branding it so it appeals to as many people as possible!"