Testing and publishing a Flash project

Activity Overview

Testing your Adobe Flash Professional content before you publish it is very important. This is especially true when publishing a movie for multiple screens. When testing your Flash content, it's a good idea to perform technical, spelling, grammar, and usability tests. It is also important to make sure the project is accessible. If you're creating a mobile application, you'll need to perform additional tests of features that are unique to mobile applications, including accelerometer, touch gestures, and geolocation functionality. Use this activity to teach your students how to apply accessibility standards, conduct technical and usability tests, and how to publish their applications across devices and screen sizes.

Note: Portions of this activity align to the Adobe Certified Associate objectives. Within the instruction steps and technical guides, the specific learning objectives for the exam(s) are referenced with the following format: [1.1]

Activity Objectives

Design skills

- Consideration of screen sizes
- Designing for multiple devices and outputs

Research and communication skills

- Conducting usability analysis

Technical Skills

Flash

- Publishing and testing movies
- Publishing Flash documents
- Using the Device Simulator
- Creating accessible Flash content
- Resizing and re-scaling Flash content
- Publishing mobile applications

Project Assets

- *Flash guide:* How to test a Flash project [5.1, 5.2]
- *Flash guide:* How to publish a Flash document [4.14, 5.1]
- *Flash guide:* How to make Flash content accessible [1.3, 2.3, 4.15]
- *Flash guide:* How to resize content for multiple screens
- *Flash guide:* How to publish a mobile application [4.14, 5.1]

Background preparation resources

Technical and content information

ISTE NETS*S Standards for Students

Adobe Certified Associate objectives

Activity Steps

1. Discuss the importance of testing a project and the types of tests to conduct. Some things to discuss include:
   - Testing ensures your movie works properly across browsers and devices.
   - When testing your Flash content, it's a good idea to perform technical, spelling, grammar, and usability tests.
   - If you're creating a mobile application, you'll need to perform additional tests of features that are unique to mobile applications, such as accelerometer, touch gestures, and geolocation functionality.
   - Learning techniques for checking that they have clean Flash documents will help when they are looking for errors in more complex movies.

2. Distribute the *How to test a Flash project* guide [5.1, 5.2] and discuss and demonstrate the following:
   - How to test the animation to make sure it works properly. Specifically, playing the movie to see if it is getting stuck anywhere. If it is getting stuck, make sure to review keyframes, instance names, and ActionScript. [5.1]
   - How to test, refine, and debug each section and transition.
   - How to test the completed movie.
   - How to check spelling and grammar.
   - How to conduct usability tests. [5.2]
   - How to preview their movie in the Adobe Flash Player, in a web browser, and using the Flash device simulator.

   Note: If they are using this activity for a larger project, like Project 3: *Building a Flash Game*, ask students to create usability tests and conduct them for their games.

3. Pair students and have them check each other's FLA files (provided by you or files that they are working on). Ask them to test and discuss the following: [5.1]
   - Select each keyframe and property keyframe and determine if more than one object is highlighted on the Stage. (Objects should be on separate layers if they are to be animated.)
   - Select each keyframe and property keyframe and determine if an object is a shape or a symbol and if the correct type of tween has been applied. (Motion tweens animate symbols; shape tweens animate shapes.)
   - In turn, select each keyframe and property keyframe along the Timeline and make sure the object is in the expected location on the Stage based on the point in the movie.

4. Allow students time to revise their FLA files as necessary, testing them after each revision to make sure any problems have been solved.

5. Introduce your students to the importance of accessibility when creating content. Discuss how creating accessible projects has never been more important than today. With the adoption of accessibility standards in the United States, Canada, the European Union, Australia, Japan, and other countries, designers and developers need to ensure that people with disabilities can access the contents of websites and web applications, as well as the authoring tools used to create them.

6. Distribute the *How to make Flash content accessible* guide [1.3, 2.3, 4.15] and discuss accessibility and why it matters. Discuss assistive technologies such as screen readers, text and media alternatives, and accessible navigation. Introduce how to make Flash content accessible by discussing the following:
   - Importance of including accessible content in interactive media elements [1.3]
   - Elements of a SWF that can be read by screen readers, such as alternative text on images and buttons [1.3, 2.3]

- Accessibility requirements when producing interactive media: [1.3, 2.3]
    - Creating text equivalent for graphic elements
    - Enabling user control over reading order of Flash content
    - Captioning audio content
    - Making looping elements accessible
    - Allowing users to control motion
    - Enabling keyboard access for all controls
    - Enabling tabbing

7. Using what they've learned, ask your students to test their content for accessibility and apply any necessary methods to ensure their content is accessible.

8. Once your students have a properly functioning and accessible animation, discuss that in order for other people to see their movie, they need to publish it in a format that is accessible by other software. Explain that they should use the Publish Settings dialog box or the Publish section in the document Properties panel to determine which formats to publish.

9. Distribute the *How to publish a Flash document* guide [4.14, 5.1] and using the "I do, we do, you do" method have your students publish a movie in the following ways:
    - To the web as HTML5 content
    - To the web as SWF content
    - As a stand-alone AIR desktop application
    - As images in JPEG, PNG, or GIF formats

10. Explain that since there are many mobile devices are on the market and their screen sizes vary, a common challenge when developing mobile applications is to make your content look similar across devices. You want to make sure your content fits each screen perfectly.

    Note: You may want to discuss some differences when designing for mobile application. You can find more information in the Background resources section.

11. Distribute the *How to resize content for multiple screens* guide and demonstrate how to do the following:
    - Design mobile applications that target a specific device and screen size—reusing and resizing content to build separate versions for each device.
    - Use ActionScript and auto-scaling features to create a single version that automatically scales to match each screen.

12. Explain that in order to install an app created in Flash on mobile devices, it needs to be published as a valid installation file. In order to create this valid file they take a finished FLA document and publish it as a mobile application. Explain that they will specify which formats to publish as a mobile application by using the Publish Settings dialog box and the Publish Settings section in the document Properties panel.

13. Distribute the *How to publish a mobile application* guide [4.14, 5.1] and using the "I do, we do, you do" method, demonstrate how to publish a mobile application to another device by selecting and confirming publishing settings.

14. Explain that just like any other project, they should always remember to test their application and make any necessary revisions prior to publishing it. Demonstrate how to test a mobile application on a desktop and a mobile device.

15. Once they have tested and debugged their application, ask them to once again confirm their publishing settings, and then publish their mobile application.

Assessment

	0 – Does not meet expectations	3 – Meets expectations	5 – Exceeds expectations
Testing	Absent or incomplete.	Student teams evaluate and articulate technical and user issues for the producers to fix in the final production.	Student teams evaluate and clearly articulate technical and user issues for the producers to fix in the final production. Students make sure content is accessible and conduct a usability test.
Published project	Absent or incomplete.	The FLA file is successfully published to the web (as an HTML5 or SWF content) or as a desktop AIR application.	The FLA file is successfully published in two or more ways, including to the web, in both HTML5 and SWF content, as a desktop AIR application, and in JPEG, PNG, or GIF formats.
Mobile app project	Absent or incomplete.	The application is deployed to a mobile device with content properly sized for the device.	The application is successfully published to two or more mobile devices, with the content rescaled and resized according to the device.

Background preparation resources:

- To view video tutorials aligned with the skills required to complete this project, visit Adobe TV: http://tv.adobe.com.
- For more teaching and learning resources on the topics in this project, search for resources from the community on the Adobe Education Exchange: http://edex.adobe.com/
- For an overview of the interface and for more information on the technical aspects of *Adobe Flash*, see *Flash* Help.

Mobile Applications:

- Mobile application design and development: http://edex.adobe.com/resource/20aaa690/
- Adobe AIR showcase apps for mobile developers: http://www.adobe.com/devnet/air/samples-mobile.html
- Adobe mobile app development: http://www.adobe.com/devnet/devices/mobile-apps.html
- Mobile web initiative: www.w3.org/Mobile/
- A look inside mobile design patterns: www.uxbooth.com/blog/mobile-design-patters/
- Designing for mobile: http://www.uxbooth.com/articles/designing-for-mobile-part-1-information-architecture/
- The 10 principles of mobile interface design: http://www.creativebloq.com/mobile/10-principles-mobile-interface-design-4122910
- Heed these 10 expert tips for mobile app design: http://www.infoworld.com/d/mobile-technology/heed-these-10-expert-tips-mobile-app-design-227481

ISTE NETS*S Standards for Students

This project is aligned to the ISTE NETS*S Technology Standards. Depending on the subject and content area the student selects you may research your own state content standards to see how this project aligns to your state requirements.

ISTE NETS*S: Curriculum and Content Area Standards – NETS for Students

1. Creativity and Innovation

   Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. Students:

   a. apply existing knowledge to generate new ideas, products, or processes.

6. Technology Operations and Concepts

   Students demonstrate a sound understanding of technology concepts, systems and operations. Students:

   a. understand and use technology systems.

   b. select and use applications effectively and productively.

   c. troubleshoot systems and applications.

   d. transfer current knowledge to learning of new technologies.

Adobe Certified Associate Exam Objectives

Adobe Certified Associate, Interactive media objectives

1.3   Understand options for producing accessible interactive media content.

2.3   Identify general techniques to create interactive media elements that are accessible and readable.

4.14 Publish and export Flash documents.

4.15 Make a Flash document accessible.

5.1   Conduct basic technical tests.

5.2   Identify techniques for basic usability tests.

For more information

Find more teaching materials for using Adobe software in your classroom on the Adobe Education Exchange: http://edex.adobe.com/.