

Timing: 2 to 3 hours

Level: Ages 15 and up

# Introduction to game design

## Activity Overview

Electronic games are very popular and with the ubiquity of game devices, you'll find that just about everyone from small children to grandparents has a favorite online game. Use this activity to teach students about games and how Flash animation can help them create fun, engaging and interactive games. They develop skills analyzing and evaluating existing games, learn about game design principles, learn how to create user scenarios, and begin the design process to build an interactive game.

**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: <sup>1.1</sup>

## Activity Objectives

### Project management skills

- Determining game purpose, audience, and goal
- Defining purpose, goal, and users
- Writing a proposal for the game, with attention to scenarios and audience characterization

### Design skills

- Designing a custom experience
- Making screen sketches for interactive experiences
- Connecting content and style to user needs

### Research and communication skills

- Researching, evaluating and analyzing the use of Flash in online gaming
- Evaluating and analyzing various game types
- Researching audience and overall gaming landscape
- Researching currently available games
- Researching appropriate uses of multimedia in gaming
- Assessing team's technological developer skill level
- Connecting goals of the game with user interaction and experience
- Communicating and presenting design decisions
- Communicating purpose and goals
- Creating user scenarios
- Selecting what information is important
- Connecting goals of the application with user interaction and experience

## Project Assets

- *Presentation*: Introduction to game design
- *Guide*: Introduction to game design
- *Worksheet*: Game-design planning document <sup>1.5, 2.4</sup>
- *Guide*: Creating user scenarios <sup>1.1</sup>

## Background preparation resources

[Technical and content information](#)

[ISTE NETS\\*S Standards for Students](#)

[Adobe Certified Associate objectives](#)

## Activity Steps

1. Use the *Introduction to game design* presentation to introduce and discuss game design. Explain that game design determines every detail of how the game will function, what win or loss criteria the game may include, how the user will be able to control the game, what information the game will communicate, and how hard the game will be. Some things to discuss include
  - *Input*: How the user controls the game (keyboard, mouse, gestures on mobile devices)
  - *Game elements*: The visual elements on the screen, such as a spaceship in a flying game
  - *Sounds*: How sounds can be used to enhance the game-playing experience
  - *Game play (also called game mechanics)*: The interactivity of the game and the choices a player (or players) are able to make and what happens when they make each choice
2. Show students both simple and complex games built with Flash Professional. Discuss the type of game (for example, action or puzzle), the overall game design, the game rules, and the types or combinations of techniques that might be involved to create some of the more complicated effects they see. <sup>2.1</sup>
3. Distribute the *Introduction to game design* guide and explain a typical game design workflow <sup>1.5</sup> and how it is similar to the phases of website production:
  - *Plan and design*: Brainstorm an idea for your game with game-design planning documents, wireframes, design comps, storyboards, and so on.
  - *Develop*: Combine your visual and audio assets in your desired programming language (in this case, ActionScript 3.0).
  - *Test and optimize*: Test your game to be sure it's bug-free and fun to play. Improve the performance through optimization.
  - *Monetize and distribute*: Determine how to get your game to your audience by offering free games or games that cost money to play. For Flash-based games, deploy via Flash Player and/or Adobe AIR. Games can be distributed through app stores, on the Internet, or through retail stores.
  - *Use analytics and update*: Study the results of usability tests, user feedback, and such metrics as game plays, duration of game play, and more to improve on the game's weaknesses. Continually try to polish your game and provide a better experience for the game players.
4. Decide the parameters for the type of game you want your students to create (for example a very simple game with a small number of game plays, similar simple drag and drop game).
5. Explain the parameters to the students. Distribute the *Game-design planning document* <sup>1.5, 2.4</sup> worksheet, and individually or in teams of two or three and allow them time to brainstorm some game ideas. When they are happy with their ideas, ask them to begin to fill-in their game design documents. Explain that they will submit their planning documents to you for approval at various junctures as they create and build their game. Explain that each team will use their planning documents throughout game design and build, adding information to it as they go.

**Note:** If a team's game seems beyond the parameters, offer specific feedback for how and where they can change the game to fit into the scope of the project. Encourage them to keep their original game ideas to build another time as they learn more about Flash and ActionScript.
6. Once the students have an approved initial game concept, introduce the concept of user scenarios by explaining that user scenarios describe in detail what users do and why they do it. Writing user scenarios teaches students how to incorporate users' desires and needs into the process of designing a game and making decisions about features and functionality. Discuss the following:
  - When designing any game or application, be sure to research and define your target audience.

- Part of the audience analysis can include user scenarios. These can be real examples based on interviews with actual target users or fictional stories based on the type of end user you expect (or hope) will use your finished product.
  - User scenarios describe in detail what users do and why they do it. They often tell a short story about a person using a game or application, detailing their motivations and goals so a designer can understand users' desires and needs.
7. Distribute the *Creating user scenarios* guide <sup>1.1</sup> and use the samples to provide examples of user scenarios.  
*Guide: Creating user scenarios* <sup>1.1</sup>
  8. Ask students to create two or three user scenarios for their game and identify the needs and desires of their audience for the game. <sup>1.1,1.2</sup>

## Assessment

<b>Game-design planning document**</b>	Absent or incomplete.	Students create game-design planning documents that identify audience and goals of a game. The document describes game elements, rules of play, and game narrative. The document includes sketches of the game environment and a logical storyboard. Students identify technical considerations and game object symbols.	Students create game-design planning documents that provide detailed information on the audience and goals of a game. The document describes game elements, rules of play, and game narrative. The documents include detailed sketches of the game environment and a clear and logical storyboard. Students carefully identify all technical considerations and game object symbols.
<b>User scenarios</b>	Absent or incomplete.	Students create two or three user scenarios describing why each user uses the game and how they use it.	Students create two or three user scenarios describing, in detail, why each user uses the game and how they use it. Each user scenario is like a short story describing the person using the game and detailing their motivations and goals.

\*\* As mentioned above students will return to this document throughout creating a game so you should assess it at various junctures during the design and building of the game.

## Background preparation resources:

- 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/>

### Game design

- Adobe gaming: <http://gaming.adobe.com/>
- Adobe Developer Connection – Game Development: [www.adobe.com/devnet/games.edu.html](http://www.adobe.com/devnet/games.edu.html)
- Jumpman: [www.maximized.co.uk/tutorials/games/jumpman/](http://www.maximized.co.uk/tutorials/games/jumpman/)
- Flash Game Development by Example: [www.flashgamedevbook.com/](http://www.flashgamedevbook.com/)

- Adobe Education Exchange – Jumpman game and tutorial by Colin Maxwell:  
<http://edex.adobe.com/resource/6c222552c7>
- Adobe Education Exchange – Begin the Adventure in Flash Game Design by Kristine Kopelke:  
<http://edex.adobe.com/resource/a9a2119df5/>
- Adobe Education Exchange – First Steps in Flash Mobile Development tutorial by Kristine Kopelke:  
<http://edex.adobe.com/resource/bc6739d213>
- Adobe Education Exchange – Game Design:  
<http://edex.adobe.com/search/resources/subject/game-design/>

## 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.

## Adobe Certified Associate Exam Objectives

### Adobe Certified Associate, Interactive Media objectives

- 1.1 Identify the purpose, audience, and audience needs for interactive media content.
- 1.2 Identify interactive media content that is relevant to the purpose of the media in which it will be used (websites, mobile devices, and so on).
- 1.5 Understand project management tasks and responsibilities.
- 2.1 Identify best practices for designing interactive media content for desktop and mobile browsers, applications, games and HD video.
- 2.4 Use a storyboard to design interactive media elements.

### For more information

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



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