

Game design & planning

Project Overview

In this project, students, working in teams, begin to plan and design a simple interactive game they will create by using Adobe Flash Professional. Each student team interprets a client's needs in proposing design solutions for the game's navigation scheme, page layout, look and feel, and flow. Students write specific design documents to help them communicate clearly with the client.

The focus of this project is working on a team and designing for someone else, emphasizing the following: the design-team process for game development, team-client interaction for incorporating feedback and changes throughout the development of the game, and team-client communication using design documents and evaluating games in preparation for the design. In *Project 3: Building a Flash game*, student teams will build and launch the client game, completing the full design production process.

Student products: Design production project plan and game-design planning document; flowchart, script or user scenario, storyboard, and design comps

Note: Portions of this project 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}

Project Objectives

At the completion of the project, students will have developed the following skills:

Project management skills

- Managing and organizing multiple tasks involved in design versus production
- Understanding roles and responsibilities
- Meeting deliverables
- Determining game purpose, audience, and goal
- Determining available resources and skill level for game development
- 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
- Providing multiple design ideas
- Synthesizing information from design review meetings
- Creating flowcharts
- Creating design comps
- Creating storyboards
- Designing consistent website pages
- Designing for a specific audience and purpose

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
- Communicating purpose and goal
- Understanding scripts and user scenarios
- Creating a game narrative
- Communicating and presenting design decisions
- Giving feedback on a project
- Asking questions to focus and clarify
- Listening and interpreting feedback
- Understanding and addressing client design issues
- Connecting goals of the game with user interaction and experience
- Finalizing design with a client

Project Activities

- *Activity:* Introduction to game design
- *Activity:* Introduction to project planning, project management, and teamwork
- *Activity:* Working with clients
- *Activity:* Planning design projects
- *Activity:* Research and writing for design projects
- *Activity:* Information architecture
- *Activity:* Creating storyboards for web projects
- *Activity:* Design comps
- *Activity:* Design project review and redesign

Background preparation resources

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Project Steps

1. Introduce students to goals of the project:
 - Analyze existing games and introduce game design principles
 - Define a plan for creating and developing a game
 - Work with a client to design a game
 - Outline the information architecture
 - Create flowcharts, design comps, and storyboards
2. Introduce the project and provide information about the game, such as the following:
 - Explain that for this project they will work with a client to create a simple game with a small number of game plays.
 - Explain they can choose between a drag-and-drop or simple character-movement game.
 - Explain that they will define parameters with their client, including things like number of game plays, timing, type of input, designing for multiple screens and devices, and so on.
 - Explain that they will create a desktop and mobile version of the game.
 - Explain that they will have to create game instructions. Discuss how this should be sketched out during the design process, but the final instructions will not be written until after they build the game so they don't have to move through it each time they test the game, which could be frustrating.

Since they are working with a client, it is recommended to discuss with the client realistic expectations for the game according to the skill level of your students and agree on a set of parameters prior to the start of the project. An ideal client would be one in which the game is used to promote a product. Alternatively you can act as the client and assign different types of scenarios with realistic parameters for each team.

Recommended parameters, and ones that are used in the rubric for the final game outcome in Project 3: Building a Flash game include:

- Drag and drop game: introductory screen with a play button, a pause and stop button, a play again button, and five drag-and-drop objects.
 - Character animation game: introductory screen with a play button, a pause and stop button, and a play again button. The game character navigates a course and needs to jump, climb, or avoid objects.
3. Utilize the following series of activities to introduce students to the core skills needed to complete the planning and design phases of a client game design project.

4. *Activity:* Introduction to game design
(Suggested time: 50-150 minutes)

ACA Exam Objectives: **1.1, 1.2, 1.5, 2.4**

Use this activity to teach or review how to:

- Determining game purpose, audience, and goal
- Researching, evaluating, and analyzing the use of Flash in online gaming
- Evaluating and analyzing various game types

- Researching audience and overall gaming landscape
- Understanding how to utilize user scenarios in game design

Explain to students that they will put these concepts into practice in planning and designing their games. Remind students that they will complete their *Game design planning* worksheet in stages throughout the entire duration of this project.

5. *Activity:* Introduction to project planning, project management, and teamwork
(Suggested time: 50-150 minutes)

ACA Exam Objectives: 1.6, 2.6, 1.3, 1.4, 1.4, 2.6, 1.5, 1.6, 1.3, 1.4, 1.3, 1.4

Follow these steps to utilize this activity for this project:

a. Use this activity to introduce and discuss the following when working on a project:

- Project planning
- Production phases
- Project management
- Working in teams

b. Form student design teams and, where possible, mix members with complementary strengths, such as visual design, technical skill, and project management.

6. *Activity:* Working with clients
(Suggested time: 50-150 minutes)

ACA Exam Objectives: 2.6, 1.4, 2.6, 1.6, 1.4, 1.4

Follow these steps to utilize this activity for this project:

a. This activity introduces the best practices for working with clients to help them create projects that address client's audience, purpose, and goals. Through this activity students will learn about:

- Interviewing clients
- Designing for clients
- Communicating and presenting design ideas to clients
- Understanding and addressing client design issues
- Finalizing a design with a client

b. In preparation for the client interview, discuss the kind of information design teams need from their clients about the clients' goals and target audience. Help students identify criteria for determining whether content is relevant to the game and appropriate for the target audience.

c. Have students conduct an interview with the client. After the interview, have teams review games recommended by the client. Encourage teams to collect potential assets and design ideas as they review games.

7. *Activity: Planning design projects*
(Suggested time: 50 minutes)

ACA Exam Objectives: 1.6, 2.6, 1.3, 1.4, 1.4, 2.6, 1.5, 1.6, 1.3, 1.4, 1.3, 1.4

Follow these steps to utilize this activity for this project:

- a. Use this activity to teach students how to create a project plan while managing projects.
- b. Discuss the design project production phases again in the context of creating the client games. Some things to discuss include:
 - When the completed client game is due
 - Reasonable time frames for each phase
 - Setting due dates
 - Designating task owners for each task on their lists
 - Responsibility of the task owner, especially who is accountable for getting a task completed regardless of who actually works on the task
- c. Ask students to use the information from the *Game design planning document* to create a project plan for organizing their tasks within the project phases.

8. *Activity: Research and writing for design projects*
(Suggested time: 50-100 minutes)

ACA Exam Objectives: 1.2, 2.1

Follow these steps to utilize this activity for this project:

- a. Explain that they will have to write instructions for the game. It is advised that they create an initial outline in this activity for the instruction for how the game should work and they will return to this one the game is completed to write the instructions. Ask them to write this outline in the *Game design planning document*.
- b. Explain that students may want to write a script or create user scenarios for their game. Explain that scripts and user scenarios, especially for a character movement games, will help them create a narrative and a context for the game to help them how understand how a user would move through the game and places where a user may get confused or stuck.
- c. Think about how to communicate the game's instructions and other written content to particular audiences.

9. *Activity: Information architecture*
(Suggested time: 50-100 minutes)

ACA Exam Objectives: 1.1, 1.2, 1.5, 2.5

Follow these steps to utilize this activity for this project:

- a. This activity introduces students to information architecture. Students should understand how to organize projects so users have easy access to content and information.
- b. Explain that if they are promoting a client product through the game, information architecture will be especially important in making sure the audience is getting the information the client wants them to receive.
- c. Using what they've learned, ask students to create a flowchart for the game.

10. *Activity:* Creating storyboards for web projects
(Suggested time: 50–100 minutes)

ACA Exam Objectives: 2.5, 1.5, 1.6

Use this activity to introduce students to the storyboard concept to tell the visual story of a design project, with sufficient detail to enable the production crew to understand what they will create. Have your students create a storyboard for their game, using the *Game design planning document*.

11. At this juncture it is recommended to ask students to present their design documents, including scripts/user scenarios, flowcharts, and storyboards, as well as their project plans to the client. Ask the client to give an assessment of how the information organization, visual placement, and project schedule meet their goals and address their target audience. Make sure at least one member of each team takes notes on the client's comments.
12. Have teams revise their design documents and project plans in response to the client's feedback.

13. *Activity:* Design comps
(Suggested time: 50 – 100 minutes)

ACA Exam Objectives: 1.6, 1.3, 3.2, 1.5, 1.3, 1.3

Follow these steps to utilize this activity for this project:

- a. This activity introduces the concept of a design comp and how they are used to create and present multiple design ideas.
- b. Explain that students will create design comps, using their storyboards, for the client game. If possible, show students some sample design comps.
- c. Ask each team to make two or more design comps of the introductory screen and a few sample game scenes.
- d. After teams have completed their comps, ask each team to select their two best comps to share with clients.

14. *Activity:* Design project review and redesign
(Suggested time: 50–100 minutes)

ACA Exam Objectives: 1.1, 2.6, 1.1, 1.4, 1.1, 2.6, 1.1, 1.6, 1.1, 1.4, 1.1, 1.4

Follow these steps to utilize this activity for this project:

- a. This activity introduces students to conducting a review and redesign cycle. In this project, students will conduct the review and redesign with the client.
- b. Remind students of what they learned earlier in the *Working with clients* activity and ask students to prepare a presentation for the client that includes some or all of the following:
 - How their two design comps address the client's goals, audience, and game requirements.
 - Screenshots of the color, font, and game samples, accompanied by the reasons for the design, layout, and navigation choices.
 - Question-and-answer session in which the client gives feedback.

- c. Ask the clients to give feedback to each team. At this point have each team ask their client to select the color and font samples and the visual layouts they prefer, indicating any changes they believe should be made. (If a person from outside the classroom is acting as the client, the instructor might mediate the question-and-answer sessions to help student teams take note of the requested changes.)
 - d. Ask teams to revise the design comps based on client feedback and present their comps to the clients again. Ask students to get client approval for the finalized color and font samples and navigation designs. Students should document these elements in their design documents before proceeding to production. Teams can begin to incorporate final graphics and content as parts of the comps are approved.
15. Once teams have client approval of all project planning and design deliverables, they can begin production work as outlined in Project 3: *Building a Flash game*.

Extension Activities

You can extend the project in the following ways:

- *Map an existing game*: To help students understand game flow, have them create a flowchart for a simple game on the Internet. You might find a small game for students to map. For example, students would draw the flow from the start to finish of the game, outlining the different game paths and decision points. By clicking through the game, students will begin to understand how a flowchart relates to a constructed game and will be able to create their own flowcharts more easily.
- *Milestones*: To help students manage their time during long projects, you can create milestones that give intermediate deadlines within the larger project. For this activity, you might have a class discussion to identify deadlines for each section of the design document. The sections are:
 - Goals, objectives, and site messages
 - Audience
 - Goals for redesign
 - Technical specifications
 - Game content
 - Game flow
 - Visual design
- *Professional designer*: You might ask a professional designer to talk to the class about creating design documents, explaining how they are helpful in the production process and in communicating with the client.

Assessment

This is a high level view of what student should create during this project. Refer to the assessment rubrics in each activity for more detailed/specific assessment rubrics for each part of the project.

| | 0 – Does not meet expectations | 3 – Meets expectations | 5 – Exceeds expectations |
|-----------------|---------------------------------------|---|---|
| Teamwork | Absent or incomplete. | Student collaborates with other students as required to provide feedback or assistance. Fulfills assigned team roles and contributes equally to project work. Sometimes consults with other team members on major project decisions but makes minimal effort to help others build skills. | Student collaborates freely with other students to provide feedback or assistance. Fulfills assigned team roles and contributes equally to project work. Consults with other team members on major project decisions and voluntarily helps others build skills to complete the project. |
| Time management | Absent or incomplete. | Student allots time for each phase of the design and development process. Completes most phases on schedule. | Student thoughtfully and effectively allots time for each phase of the design and development process. Completes all phases on schedule. |

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 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 Professional*, see *Flash Help*.

Keywords:

- project plan
- game design
- client communication
- purpose
- audience
- design comp
- navigation
- production storyboard
- design review
- flowchart

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.
- b. create original works as a means of personal or group expression.
- d. identify trends and forecast possibilities.

2. Communication and Collaboration

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others. Students:

- b. communicate information and ideas effectively to multiple audiences using a variety of media and formats

3. Research and Information Retrieval

Students apply digital tools to gather, evaluate, and use information. Students:

- a. plan strategies to guide inquiry.
- b. locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
- c. evaluate and select information sources and digital tools based on the appropriateness to specific tasks

4. Critical Thinking and Problem Solving

Students use critical thinking skills to plan and conduct research, manage projects, solve problems and make informed decisions using appropriate digital tools and resources. Students:

- a. identify and define authentic problems and significant questions for investigation.
- b. plan and manage activities to develop a solution or complete a project.
- d. use multiple processes and diverse perspectives to explore alternative solutions

5. Digital Citizenship

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior. Students:

- a. advocate and practice safe, legal, and responsible use of information and technology.
- b. exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.
- c. demonstrate personal responsibility for lifelong learning.

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.
- d. transfer current knowledge to learning of new technologies.

Adobe Certified Associate Exam Objectives

Adobe Certified Associate, Interactive Media Communication 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.
- 1.6 Communicate with others (such as peers and clients) about design and content plans.
- 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.

Adobe Certified Associate, Web Authoring objectives

- 1.1 Identify the purpose, audience, and audience needs for a website.
- 1.2 Identify web page content that is relevant to the website purpose and appropriate for the target audience.
- 1.5 Make website development decisions based on your analysis and interpretation of design specifications.
- 1.6 Understand project management tasks and responsibilities.
- 2.5 Demonstrate knowledge of flowcharts, storyboards, and wireframes to create web pages and a site map (site index) that maintain the planned website hierarchy.
- 2.6 Communicate with others (such as peers and clients) about design and content plans.

Adobe Certified Associate, Visual Communication objectives

- 1.3 Demonstrate knowledge of project management tasks and responsibilities.
- 1.4 Communicate with others (such as peers and clients) about design plans.
- 3.2 Demonstrate knowledge of layers and masks.

Adobe Certified Associate, Video Communication objectives

- 1.1 Identify the purpose, audience, and audience needs for preparing video.
- 1.4 Demonstrate knowledge of the production planning and management process.
- 2.6 Communicate with others (such as peers and clients) about design and content plans.

Adobe Certified Associate, Graphic Design & Illustration objectives

- 1.1 Identify the purpose, audience, and audience needs for preparing graphics.
- 1.3 Demonstrate knowledge of project management tasks and responsibilities.
- 1.4 Communicate with others (such as peers and clients) about design plans.

Adobe Certified Associate, Print & Digital Media Publication objectives

- 1.1 Identify the purpose, audience, and audience needs for preparing page layouts.
- 1.3 Demonstrate knowledge of project management tasks and responsibilities.
- 1.4 Communicate with others (such as peers and clients) about design plans.
- 2.1 Demonstrate knowledge of the appropriate properties of page layouts for print, web and digital publishing.

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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