UNDERSTANDING USER INTERFACE DESIGN

**Essential Question:** *What Is Good User Interface Design?*

**Learning Targets:**

Students will:

- Define key criteria of user interface design.
- Understand the basics of wire framing.
- Be able to articulate features of an app.
- Evaluate apps based on set criteria.

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**Lesson Overview**

What is user interface, and why should we be concerned with good user interface design? A checklist of the features of apps with good user interface design is generated by the YPs, while they analyze apps that function well and those that don’t. The primary criteria for judging an app are intuitiveness, efficiency, and ease of navigation. YPs will examine apps to see if they are well designed with these criteria in mind.
Lesson Agenda

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<th>Opening</th>
<th>User Interface Design (10 min)</th>
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<td>Work Time</td>
<td>App Design (25 min)</td>
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<tr>
<td>Closure</td>
<td>Red Light, Green Light (5 min)</td>
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</table>

Materials

- Device stations (at least one app-enabled device per group)
- Young Professional student packet
- User-friendly design graphic organizer (for teacher reference)
- Red, yellow, and green objects (poker chips, popsicle sticks - one each color per student)

FACILITATION NOTES

Getting Started with User Interface: The UI/UX Design Process Video is an instrumental only advertisement for a business. It is worth showing because it highlights the many steps of what goes into designing an app. Feel free to pause the video from time to time to ask students what they’re seeing on the screen. You can show this video again in future lessons as students gain a better sense of vocabulary and understanding.

Usability: If you are seeking a resource for better understanding of what makes an app user-friendly, try this web site: http://www.techrepublic.com/blog/10-things/10-things-that-make-software-user-friendly/.

Exploration Time: If your students do not have access to apps outside of class, provide 5-10 min of in-class time for playing with apps, ideally educational, to broaden the set of apps with which they are familiar. You may also wish to increase app exploration time to improve student engagement.

Using Devices: If you do not have access to devices at this time, you can also have students review trailers for apps and screenshots. These can usually be found where apps are normally
IN ADVANCE

- Bookmark the iTunes or Google Play store with 2-3 educational apps that have promotional videos, screenshots, or any other attributes that can help signify features and usability. These can be the same apps from the previous lesson.
- The Surgeon Simulator 2013 video can be found at http://www.surgeonsim.com/surgeon-simulator-2013/

Vocabulary

<table>
<thead>
<tr>
<th>Content</th>
<th>Tier II</th>
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</thead>
<tbody>
<tr>
<td>user interface, skeuomorphic design</td>
<td>intuitiveness, efficiency, navigation</td>
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<tr>
<td>intuitiveness, wireframe, device, program, usability</td>
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Opening (10 min)

Getting Started with User Interface Design (10 min)

In our last lesson, we looked at qualities we believed make a good app. The way an app looks, and how easy it might be to interact with it, may impact how much you enjoy using an app. An important design component when creating apps is figuring out what the app actually looks like—what buttons exist and where, colors, images, and more. This is known as the user interface. A user interface is what the user sees— it is the way in which the user interacts with the device. Therefore, good user interface is a key component of making any app more likely to be used.

2. When the video has ended, **ask** the YPs to pair-share their thinking on the following questions:
   - **Why do you think user interface is so important?**
What do you think makes for good user interface design?

Invite students to use scratch paper to create a list and then share with a partner.

3. Use <equity sticks> to select pairs to share their responses.

Listen for: User interface is important because it makes it easy for users to interact with the computer. Good user interface design has the characteristics of being intuitive, efficient, and easy to navigate.

Point out that poor design makes it difficult to interact with a computer, and in the case of apps, users may decide they are too complicated to use and abandon them for a better-designed alternative.

**Work Time (40 min)**

**App Design (25 min)**

In your app design work, you will be focusing on good user interface design. The three criteria that make an app user-friendly are **intuitiveness**, **efficiency**, and **ease of navigation**. If a device, program, or app is easy to learn and has pieces to it that are familiar, it has met the criteria of being **intuitive**. If you have to really study the guide to using something, it is not meeting the criteria of intuitiveness. **Efficiency** relates to how quickly a user can perform tasks using the app, after the app design has been learned. When an app is **easy to navigate**, the buttons and links make sense, and the program is easy to operate. All three of these features are related; but we will be looking at them separately to get a sense of what they look like in app design.

1. Take a moment to define and give examples/non-examples of our key criteria words here.

2. Project the “Surgeon Simulator 2013” video (http://www.surgeonsim.com/surgeon-simulator-2013/) for a non-example. Again, model the completion of the graphic organizer as you provide the justification for your reasoning: The game Surgeon Simulator is actually designed to be difficult to play, as the surgeon character has clumsy hands. It is not at all easy to navigate and has been reviewed as annoying to play.

3. Begin the lesson by modeling the <iPhone Photograph>, as well as the <User-Friendly Design Graphic Organizer>, for the first example of the criteria for being easy to navigate. Model filling in the graphic organizer appropriately as you think
aloud giving your justification for the example: Even a 1-year-old can scroll through photos on an iPhone, because the design is very easy to navigate. This same feature could also be categorized as an example of being intuitive, because anyone can use it.

4. **Direct** the YPs to the *Criteria for A Good App* student sheet. Offer the *ABCs of IT* in their student packets for reference.

5. **Ask:** What reasons in the list relate to the criteria of the app being user-friendly? (Ex. “The nice colors make the text easier to read”; “The buttons helped me understand how to use the app without much effort.”)

6. **Review** each criteria and check for understanding.

7. **Have** the YPs take notes alongside each criterion on the handout.

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**Check for Understanding: Red Light, Green Light**

*As you work, share your understanding of user interface design and what makes an app user-friendly. Now let’s check for understanding.*

1. **Distribute** red, yellow, and green objects (e.g. popsicle sticks, poker chips, cards).

2. **Ask** YPs to reflect on their understanding.

3. **Invite** students to place the color object on their desk that describes their comfort level or readiness (red: stuck or not ready; yellow: need support soon; green: ready to start).

4. **Take** note of the self-assessments throughout the lesson (at regular intervals).

5. **Focus** your support on the reds first, then move to yellows, and finally the greens. Students change their colors as needed to update their status.

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**Usability Testing**

1. **Invite** students to pair with a partner and borrow a classroom device. If devices are unavailable, have students browse apps (screenshots and reviews) on computers.

2. **Revisit** the *User-friendly Design Graphic Organizer*.

3. **Explain** that each pair will be analyzing apps along the three criteria: intuitiveness, efficiency, and ease of navigation. The YPs should choose a single app they like as an example, or an app they don't like as a non-example. They must also be able to justify why that app fulfills or does not meet the criteria.

   - **Point** out that the criteria are highly related. The YPs just need to be able to justify—give a good reason for—their placement of the app as an example or non-example related to the criteria.

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*IT Module Lesson 8: Understanding User Interface Design*

Pathways to Prosperity Network

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This pushes YPs to think beyond like/dislike and model a process for analyzing apps based on criteria.
4. **Provide** about 10 minutes for pairs to work on analyzing the apps.

5. **Direct** pairs to join other groups that analyzed the same app. Explain that in this larger group, they should share their examples and non-examples and their justifications for these analyses, referring to the graphic organizer and modeled example.

6. **Instruct** YPs to add new thinking and takeaways to their notes.

7. **When** groups have completed this work, bring the whole class together.

8. **End** worktime with a final red light, green light check. **Ask** YPs: *How well do you think you understand the three basic criteria for a quality app: intuitiveness, efficiency, and ease of navigation?*

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**Closure (5 min)**

**Debrief (5 min)**

1. **Draw** the *Design Criteria table* on the board
2. **Ask:** *What apps met the design criteria? How were they intuitive? How were they easy to navigate? How were they efficient?*
3. **Use** *equity sticks* to solicit responses. Ensure every group has an opportunity to provide an answer or add one to the board.

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**Design Criteria Table**

<table>
<thead>
<tr>
<th></th>
<th>Examples</th>
<th>Non-examples</th>
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<tbody>
<tr>
<td><strong>Definition</strong></td>
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<td><strong>Intuitiveness</strong></td>
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<tr>
<td><strong>Efficiency</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ease of navigation</strong></td>
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**IT Module Lesson 8: Understanding User Interface Design**
Pathways to Prosperity Network
UNDERSTANDING USER INTERFACE DESIGN: What Is Good User Interface Design?

Today’s Learning Objectives:

I can:

- Understand the basics of strong user interface design and wire framing.
- Be able to articulate features of an app.
- Apply knowledge to begin designing their wireframes.

What is user interface, and why should we be concerned with good user interface design? I will generate a checklist of the features of apps with good user interface design while I analyze apps that function well and those that don’t. The primary criteria for judging an app are intuitiveness, efficiency, and ease of navigation. I will examine apps to see if they are well designed with these criteria in mind.

Today’s Activities

- Getting Started with User Interface Design
- App Design
- Building a Wireframe: Design a Homepage
- Red Light, Green Light
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Criteria for a Good App

What Makes A Good Application?

Purpose:
What is the need?

Audience:
Who is this for?

Stability:
Any bugs in the program?

Polish:
How is this different?
## User-friendly Design Graphic Organizer

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Features Analysis</th>
<th>Group Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Examples:</td>
<td></td>
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<tr>
<td></td>
<td>Non-examples:</td>
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<tr>
<td><strong>INTUITIVE</strong></td>
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<tr>
<td><strong>EFFICIENT</strong></td>
<td>Examples:</td>
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<td></td>
<td>Non-examples:</td>
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<tr>
<td><strong>EASE OF NAVIGATION</strong></td>
<td>Examples:</td>
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<td></td>
<td>Non-examples:</td>
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</table>
## Facilitator Documents:
### User-friendly Design Graphic Organizer (for Teacher Reference)

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Features Analysis</th>
<th>Group Definition</th>
</tr>
</thead>
</table>
| **INTUITIVE** | Examples:  
*Answers will vary. Ask students for justification.*  
Non-examples:  
*Answers will vary. Ask students for justification.* | Easy to get started from the first screen.  
Very little practice is needed to use the app.  
You don't need instructions.  
Anyone can use it. |
| **EFFICIENT** | Examples:  
*Answers will vary. Ask students for justification.*  
Non-examples:  
*Answers will vary. Ask students for justification.* | The app has a good structure; it flows.  
The app is useful and meets its purpose.  
You only need to give a minimum amount of time investment to achieve a result.  
It gets its job done. |
<table>
<thead>
<tr>
<th>EASE OF NAVIGATION</th>
<th>Examples:</th>
<th>The app only needs a minimum amount of button pushing in a short amount of time.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Answers will vary. Ask students for justification.</td>
<td><em>Simple design.</em></td>
</tr>
<tr>
<td></td>
<td>Non-examples:</td>
<td><em>The user doesn’t get confused trying to navigate through different screens.</em></td>
</tr>
<tr>
<td></td>
<td>Answers will vary. Ask students for justification.</td>
<td></td>
</tr>
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