Lesson 7: Identifying User Needs

Overview

Question of the Day: How can user interviews help us create apps to meet the needs of a user?

In this lesson, students interpret user interviews to determine the needs & interests of a user. They then speculate on the barriers these users are facing or the opportunities that are available for each user. In a group, they share these barriers & opportunities and brainstorm different apps that could be used to address these issues. By the end of the lesson, students will have decided on an app idea that addresses a barrier or opportunity for a user.

Purpose

In previous lessons, needs & interests have been presented more explicitly to students. In this lesson, they have the task of extracting that information from a user interview, which motivates the app they will create. Even though example user interviews are provided, this lesson can be more impactful if real user interviews are used from people in the community. This lesson also bridges to the project in the next lesson, which uses the app brainstorm as the starting point for creating a paper prototype.

Assessment Opportunities

1. **Analyze interview notes to identify specific user needs**

   Activity Guide: There should be multiple barriers identified on the bottom of the last page of the activity guide, which connect to the notes from the interview.

Standards

Full Course Alignment

CSTA K-12 Computer Science Standards (2017)

- **AP** - Algorithms & Programming
- **IC** - Impacts of Computing

Agenda

Warm Up (5 minutes)

Objectives

Students will be able to:

- Analyze interview notes to identify specific user needs

Preparation

- Print one copy of User Interview activity guide for each student
- Print a copy of the Example User Interviews for each group
- Gather poster paper and brainstorming materials (pens, sticky notes, etc)

Links

Heads Up! Please make a copy of any documents you plan to share with students.

For the teachers

- **CSD Unit 4 - The Design Process** - Slides

For the students

- **Example User Interviews** - Resource
- **User Interviews** - Activity Guide

Journal

Activity (35 minutes)
Listening to Users
App Brainstorm

Wrap Up (5 minutes)
Journal

Teaching Guide

Warm Up (5 minutes)

Journal

Prompt: What do you think should be some of the first steps when designing an app for a specific group of people, especially if you want to make sure people will actually use it?

Discuss: Have students brainstorm in their journal, then discuss with a partner, then invite students to share out as a full group.

Discussion Goal

Goal: There are many possible answers here, but it's important to steer the class conversation towards the idea of a user interview. If we want to make an app for a certain group of people, we need to talk to them and make sure we understand their needs and interests when designing the app. If students don't make this point explicitly, that's okay - you should still mention it in the remarks that transition to the next activity.

Remarks

> An important part of the design process is the user interview - this is how we first begin to identify the needs and interests of the users who may ultimately use our apps. Today you will read several user interviews and pick a user to focus on. This is an important decision, because we will spend the next few days developing a paper prototype of an app that meets the needs of this user!

Question of the Day: How can user interviews help us create apps to meet the needs of a user?

Activity (35 minutes)

Listening to Users

Group: Have students work in groups of 3-4.

Distribute: Give each student one copy of the **User Interview Activity Guide**. Give each group of students one copy of each of the **Example User Interviews**, which contains four user interviews

Teaching Tip

Reducing Printed Materials: This Activity Guide can be completed online or as a journal activity.

Connections to the Community: Rather than using the example user interviews, you may want to collect real user interviews from people in your community. Consider asking people in your school, or in small businesses, or parents & family members of your students to answer similar questions. As a result, students can prototype apps that serve the needs of real people and can directly impact their community.

User Interview

Do This: Have students read each of the user interviews in their groups. Individually, they will select a user that they would like to design an app for. It is okay for multiple students to choose the same user, and it's also okay for every student to choose a different user. After students identify their users, they should begin filling out the User Interview activity guide to identify needs and interests, and then identify barriers and opportunities.

Circulate: Monitor groups as they complete this task. The room may start off quiet as students read the user interviews. Once finished, encourage students to discuss their choices with their group and brainstorm ideas together, even if others in the group aren't working with the same user. Encourage groups to use each other as "thought partners" during this brainstorming stage.

Teaching Tip

Needs & Interests: The example interviews are designed for students to pick up on different facets of each user, with some needs and interests being more explicit than others. However, students can also "read between the lines" and make additional connections to the user, especially taking into account a user's age and location. In a real-world scenario, students might wish to ask follow-up questions to get more clarity from a user.

Barriers & Opportunities: This section requires more speculation from students as they try to imagine barriers to users meeting their needs, or opportunities for users to explore their interests. It's okay if these are less connected to the user interview, but they should be strongly tied to a specific need or interest that they've identified.

App Brainstorm

Remarks

> Now that we've identified our user and their needs and interests, it's time to brainstorm app ideas that could meet these needs! We're going to decide on a particular barrier or opportunity that we want to focus on, then form new groups to help brainstorm different apps that can meet these needs.

Do This: Have students choose one of the barriers or opportunities they identified and circle it on their paper.

Group: Have students move to different areas of the room based on which user they are designing for (for example: each corner of the room is a different user). If one group has more than 4 students, ask them to split into smaller groups of no more than 4. Give each group a piece of poster paper, markers, and some post-its.

Do This: Have each student write the barrier or opportunity that they circled on the poster paper. As a group, discuss each item on the poster paper and brainstorm potential apps that could address that barrier or opportunity. Students should write each app idea down on a post-it and place it on the poster around the idea. Empathize that there are no wrong-answers when brainstorming - every idea should get written on a post-it.

Circulate: Monitor groups as they complete this task, ensuring that app ideas are written down on post-its and placed on the board. The room may start to sound loud and energetic as students get excited by their ideas and write them on post-its. Make sure groups are building each other up and staying positive, and not devaluing any ideas from their peers.

Remarks

> I see some really amazing ideas on your boards! Using all of these ideas as inspiration, write down your own app idea on the bottom of your activity guide. This is an important decision, since we will use this app idea for the next few lessons.

Do This: Have students record their app idea on the bottom of their activity guide

Wrap Up (5 minutes)

Journal

Prompt: Now that we've brainstormed our app ideas, what do you think will be the next steps in designing our app for our users?

Discuss: Have students journal, then share in their groups, then ask a few students to share with the class.

Discussion Goal

Goal: Students are essentially predicting what they will do in the next few days. Answers will probably reflect activities from the last few lessons, such as developing a paper prototype, doing user testing, and responding to feedback.