Junior – App Development

Material list:

- **You Can Be an App Developer** pdf
- Paper
- Something to write with – a pen, pencil, crayons or markers
- Optional: Post-It notes

* Note: You are going to start creating a prototype for a new app. You will use the same supplies from step to the next.

Some computer scientists focus their skills on creating applications or apps that run on computers, tablets or phones. These computer scientists are called app developers and they use the design process to create apps that will be useful to others. In this badge, we are going through the design process to create a prototype for a new app to help someone else.

Step 1: Discover the needs of others

Think about the apps you or your family members may use on a regular bias. There are probably a lot of different ones but if you look at them closer, you could probably group them together by similarities into different categories. Here are three common categories:

- **Entertainment:** people use these apps for fun; like games and video streaming apps.
- **Learn:** people use these apps to learn new things or skills; like translators and calculator apps.
- **Help:** people use these apps to solve problems; like maps and calendar apps

When app developers start working on a new app, they don't just think about what actions the app will do, they also need to think about who is going to be using it. App developers call the people who are going to use their app, the **users**. In many cases, the design process the app developers use is called user-centered design. This means they create their app to fill the specific needs of the people who is going to use it. Often app designers will involve their users in the development of the app.

For this activity you will do step 1 of the You Can Be an App Developer handout.

Step 2: Decompose the needs of your app user

Once app developers know the needs of their user and the problem or problems the user needs for their app to solve, they start thinking about how they will make the app reach that goal or fit those needs. App developers use something called decomposition

to build their app. Step 2 of the You Can Be an App Developer handout will help you think about how to use decomposition for your app.

Step 3: Design your app screens

Now that you know different types of things, or features, your app needs to have to fit your user's needs, it's time to start building a prototype. App developers spend a lot of time in the design process thinking about what their app will look like, if it will use words or icons, or if it will have all the information on one screen or lots of different screens. Use step 3 of the You Can Be an App Developer handout to guide you in creating sketches for your app prototype.

Step 4: Include conditionals in your app design

Now that you've started to layout what your app will look like, it's time think about how your user will use your app. How will they get from one screen to the next? What will happen on each screen? At this point in the design process, app developers start thinking about what algorithms and conditional statements would be helpful for their app's code to include. For examples, see step 4 of the You Can Be an App Developer handout.

Step 5: Share and improve your app with user feedback

An important part of the design process for an app developer is to share their app with the user to test and see if it works and fulfills their needs. In this step of the user-centered design process, it's important to get feedback from the user to not only see if the app works for them, but if there are any improvements or changes they have for the app. Take the app you created and share it with your user. What feedback do they have for you?

Now that you've earned this badge, you could give service by:

- Learn more about apps that help a cause I care about.
- Learn how to improve my projects by using feedback from others.
- Share with others what I have learned about coding.

What are you inspired to do with your new knowledge?