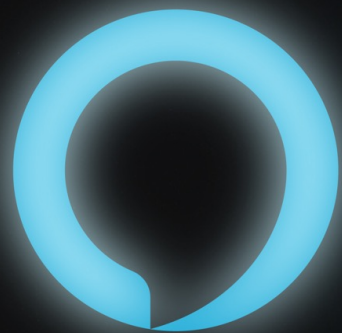


Alexa for Good

How can you use
technology to make the
world a better place?

LESSON 2



Alexa
YOUNG
INNOVATOR
CHALLENGE

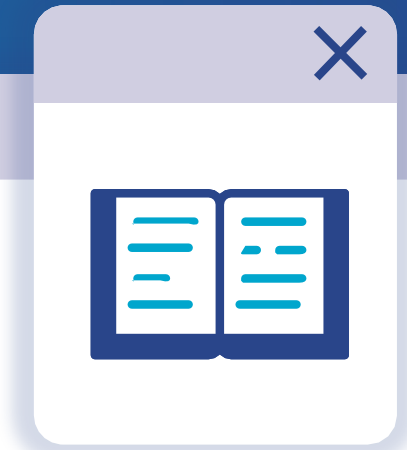
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Learning outcomes

You'll be able to:

- Recall how Alexa interprets your intention when you ask Alexa to open a skill
- List some amazing ideas to use an Alexa skill to make the world a better place
- Use a visual development environment to program an Alexa skill



How does Alexa recognise our intent?

- Can you remember how Alexa's natural language processing engine understands what we want Alexa to do?
- You've got one minute to remember each of the important things Alexa responds to.



How does Alexa recognise our intent?

Here are some clues! What do each of these words mean to Alexa?

- Wake word
- Starting phrase or launch
- Invocation
- Utterance
- Slot
- Intent



How does Alexa recognise our intent?

Here are some clues! What do each of these words mean to Alexa?

- **Wake word** – wakes Alexa up
- **Starting phrase or launch** – gets Alexa ready to do something
- **Invocation** – launches the Alexa skill we want to use
- **Utterance** – the phrase we use to communicate with Alexa
- **Slot** – information Alexa needs from us
- **Intent** – what Alexa does to carry out the skill



Alexa Young Innovator Challenge: solving real-world problems

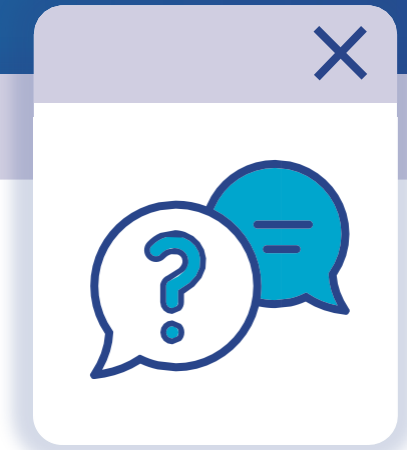
There are many challenges in the world today, many of which still need solving.

Computational thinking and technologies like AI can help us create solutions.

Think about how you could use Alexa to solve a problem that affects people in your community.

What are the challenges in your home, school or local community?

How could Alexa be used to solve them?



Win incredible prizes, including £2,500 worth of tech goodies for the winner and a £2,500 donation to their school. 20 runners up will also receive a £250 Amazon.co.uk Gift Card and a £500 school donation!

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How could someone use Alexa for good?

It's time to generate lots of great ideas!



Think of all these areas in which someone could use Alexa to make the world a better place, or choose one area that really interests you.

Generate lots of ideas for how an Alexa skill might help.

Evaluate your best ideas

Select one that you think you could program as a new Alexa skill.

How could someone use Alexa for good?

Before you program your new Alexa skill, you need to work out what algorithm will help Alexa to carry out your intent.

It's time to apply some **computational thinking**:

Break the problem down into smaller parts.

Decomposition

Identify the parts that are **important**.

Abstraction

Spot any **patterns** or general features to include in your utterances.

Pattern Recognition

Write a **step by step solution** (algorithm) that Alexa can carry out.

Algorithmic Thinking

How to program an Alexa skill

You are going to use a **visual development environment** to program Alexa.

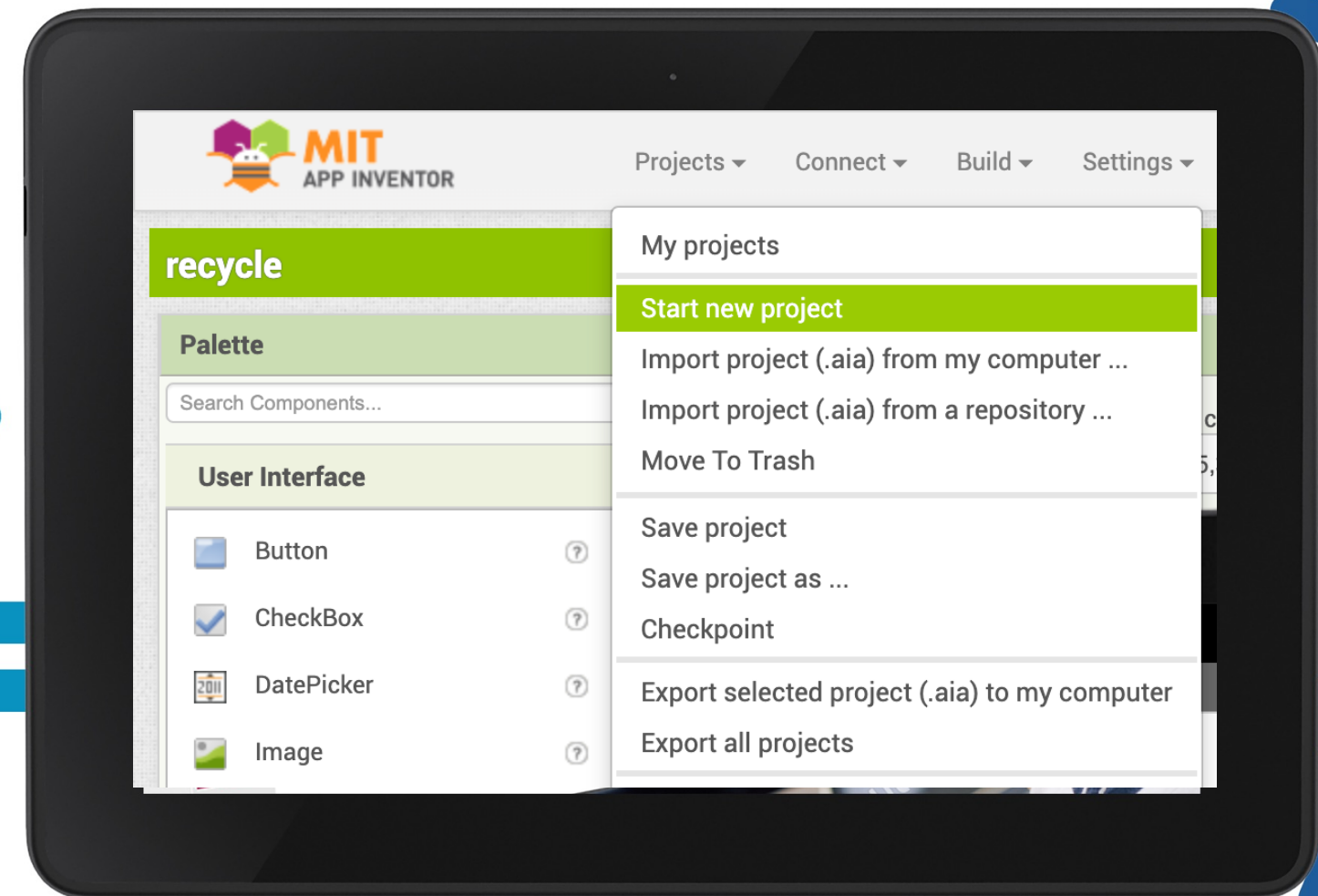
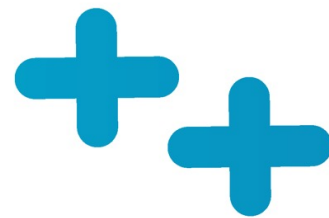
<https://alexayic.appinventor.mit.edu/>

First, create a new project:

Click on 'Projects'

Select 'Start new project'

Give your new project a name –
it's helpful to use the same name
as you'll call your skill / invocation.



How to program an Alexa skill

Add an invocation – your new custom skill

At first you'll see an Android phone screen.

Click on 'Add'

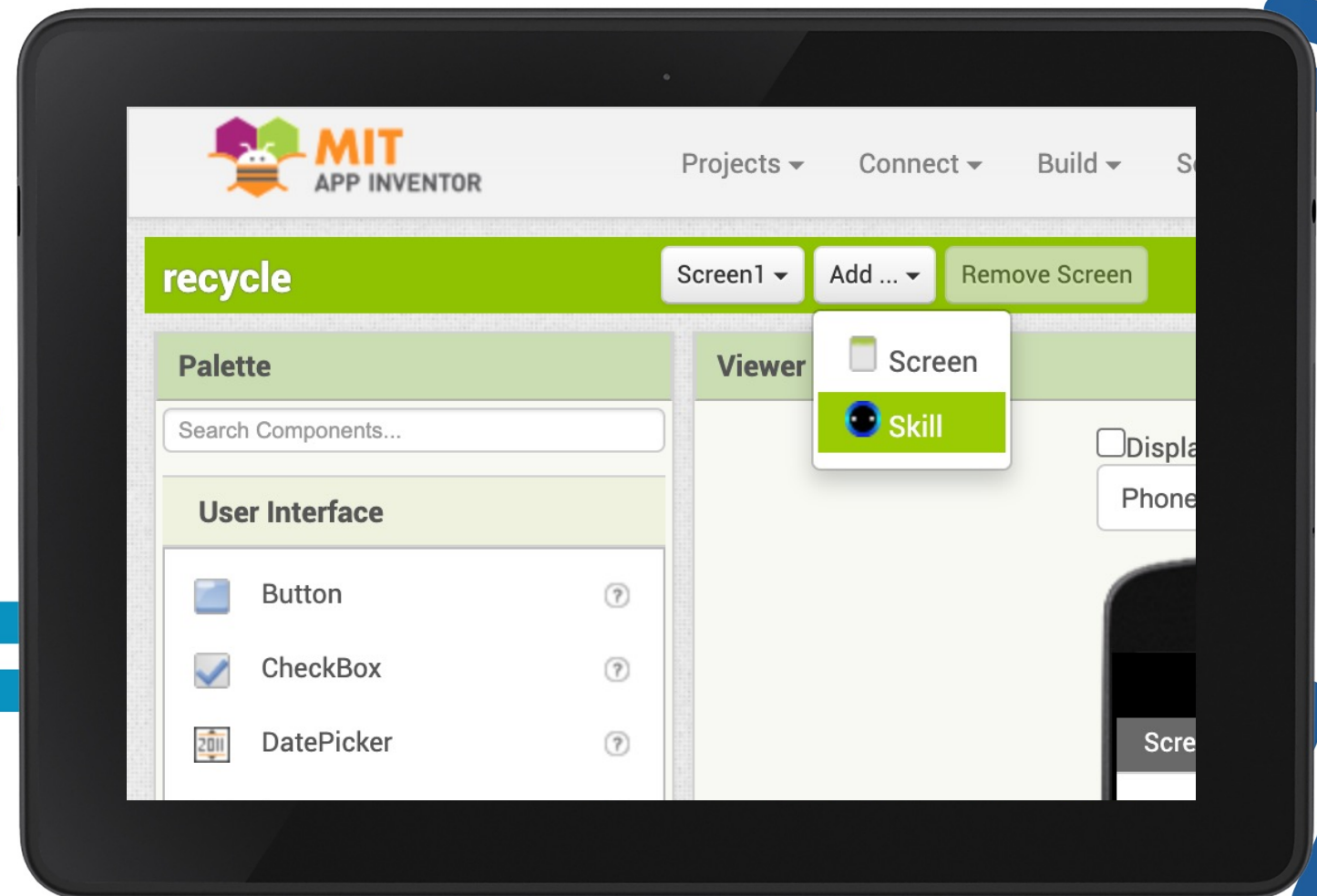
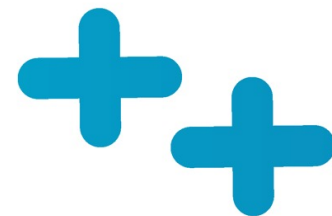
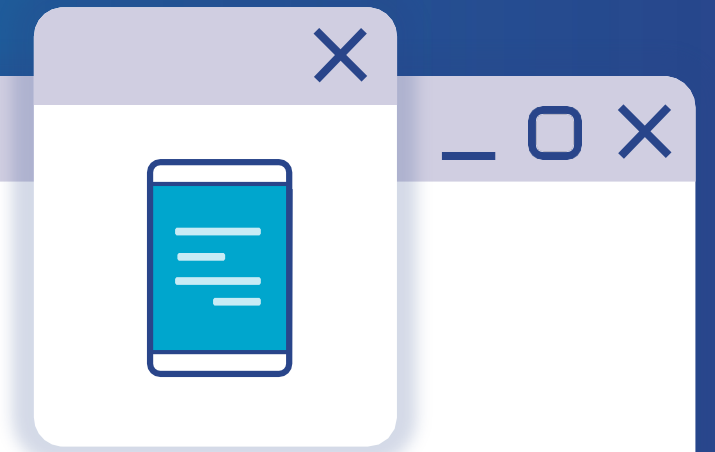
Select 'Skill'

You'll be asked to add an invocation name - this is the name for your new custom skill.

It should be two words long.

Don't use capital letters.

You'll see an Echo Dot device appear.



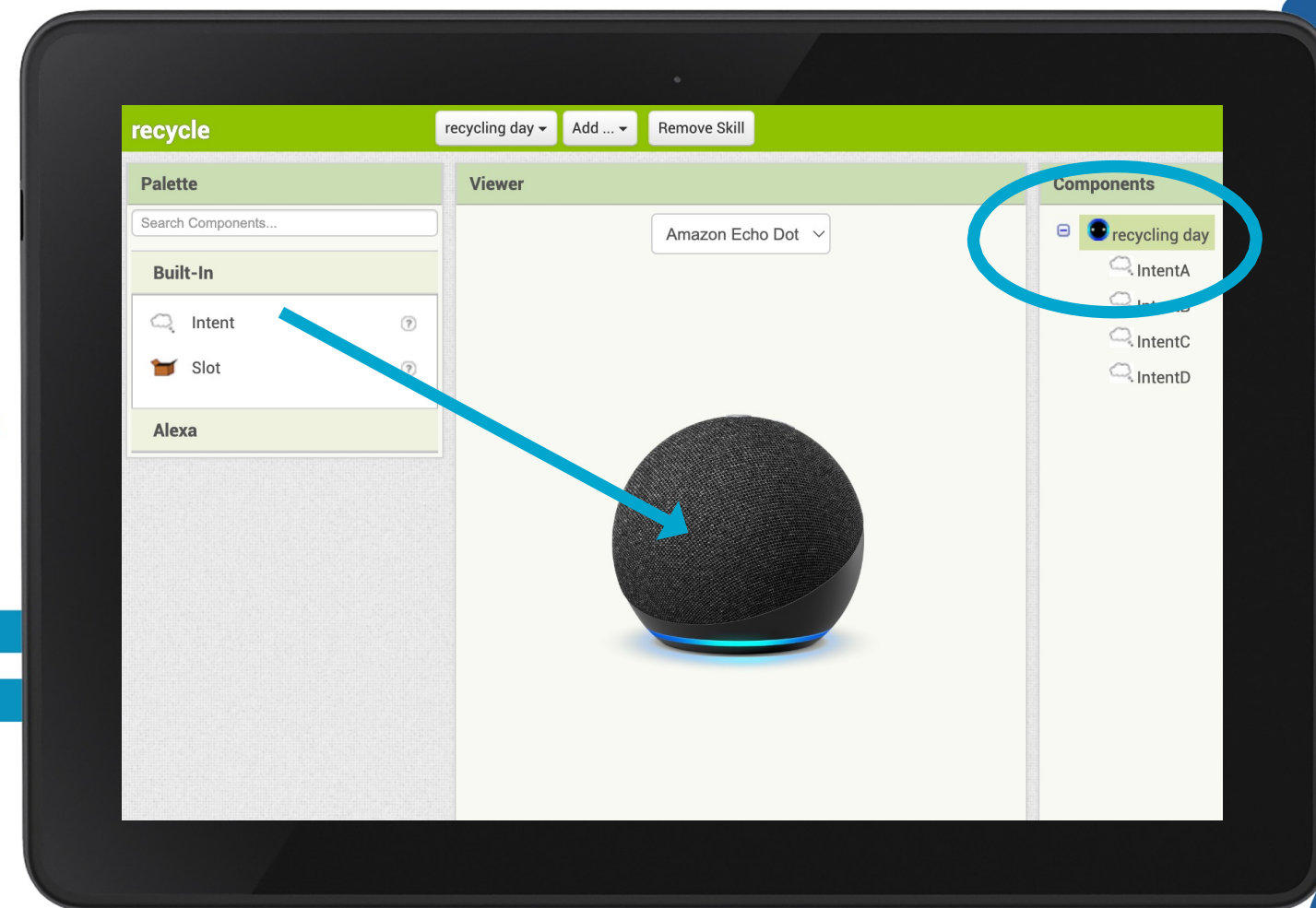
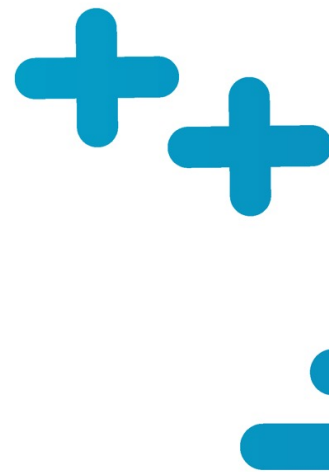
How to program an Alexa skill

Add your intent – what Alexa will do

Drag an intent from the list on the left onto the Echo Dot.

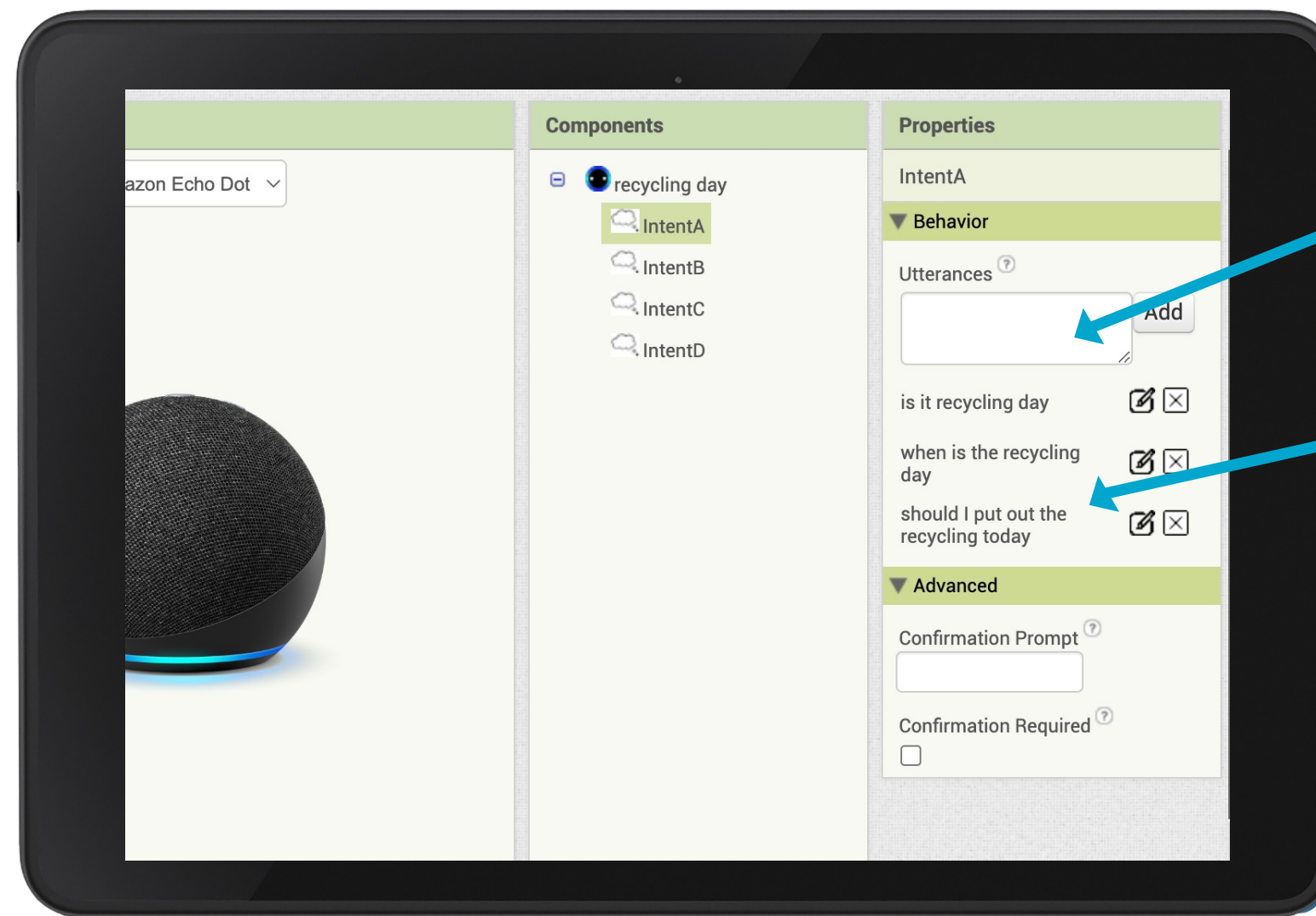
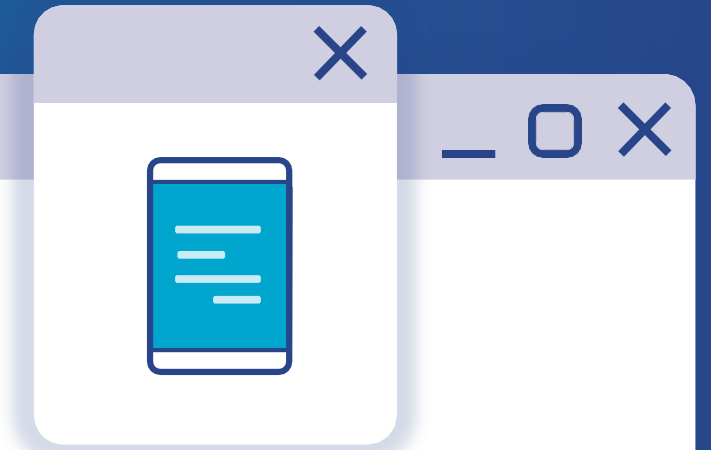
You'll see a new intent appear in the 'Components' list.

Click to rename the intent with a more descriptive name.



How to program an Alexa skill

Add utterances – all the phrases you think people will use with your custom skill:



Type each utterance here and click 'Add'

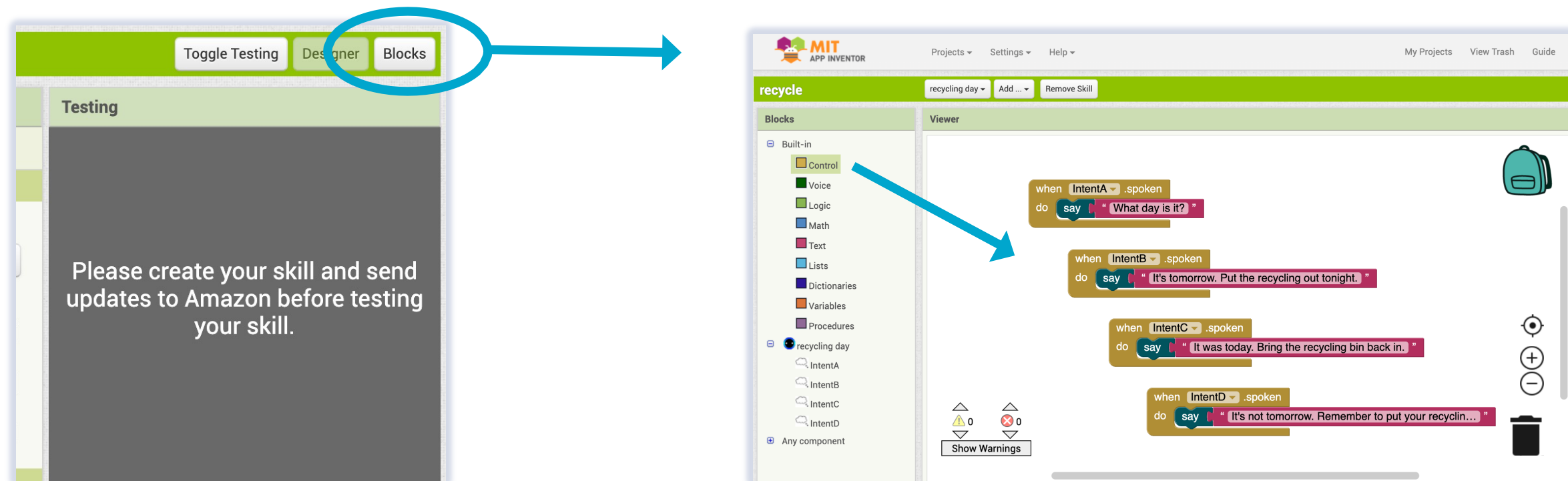
Your list of utterances will appear here.

How to program an Alexa skill

Code how Alexa will carry out your intent.

Click on 'Blocks' at the top right of the screen.

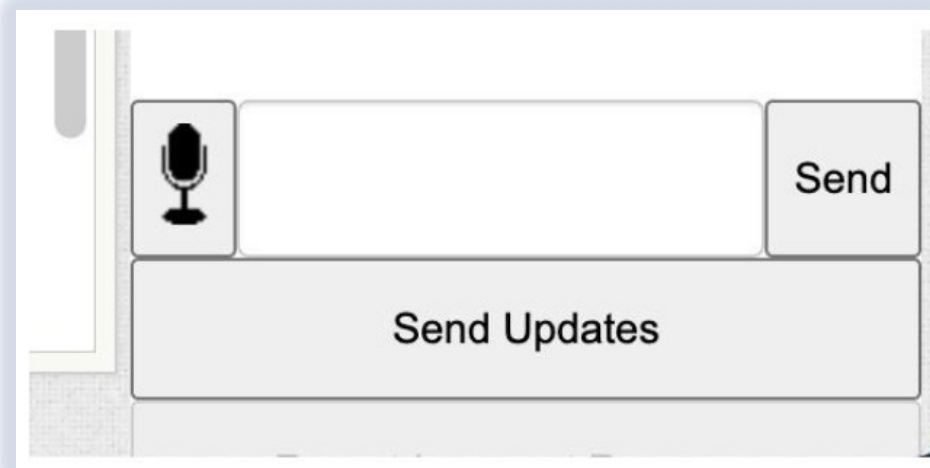
This takes you to a screen where you can add and adapt visual blocks of code.



How to program an Alexa skill

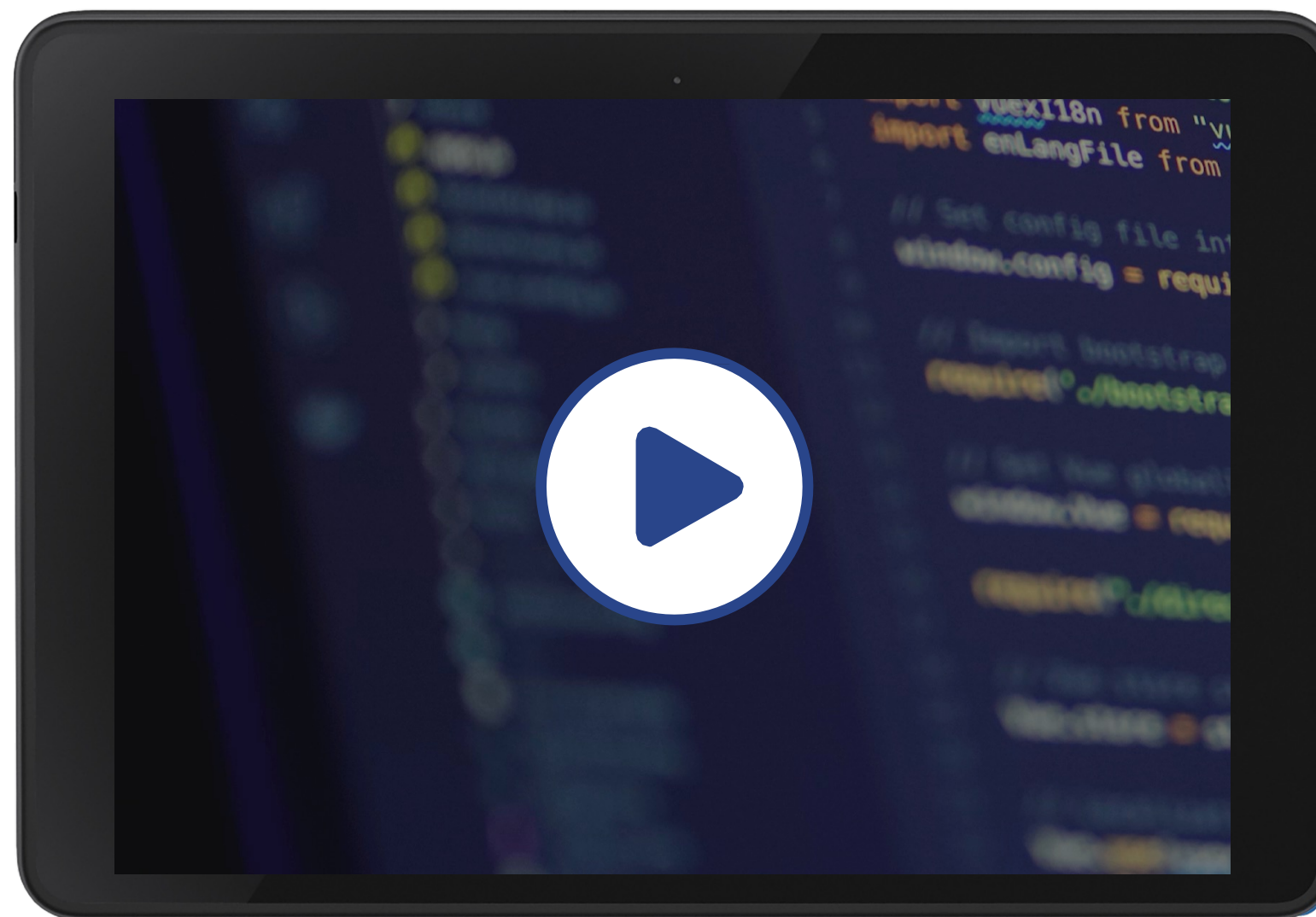
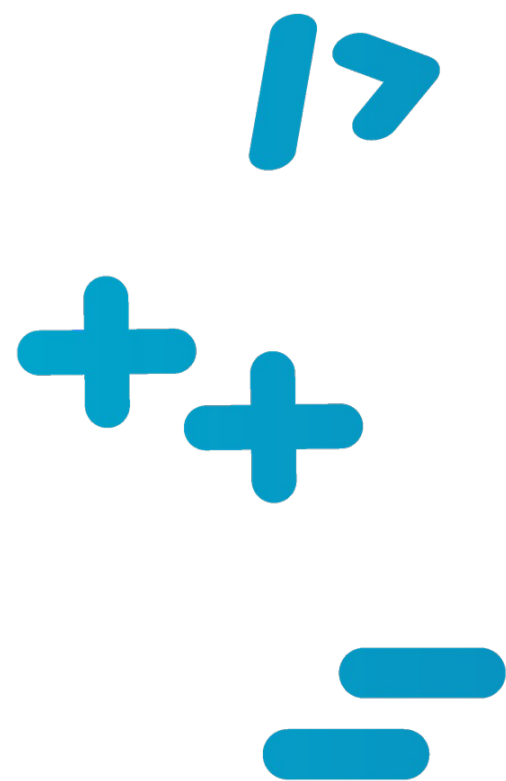
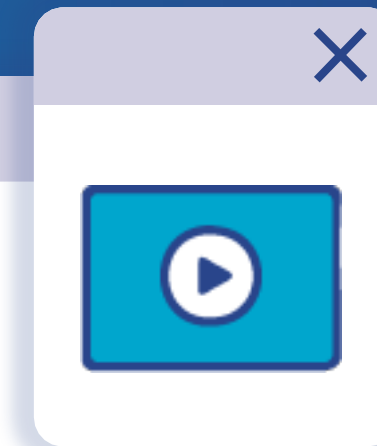
Send an update to Amazon...

... and then use voice or text to test your skill!



How to program an Alexa skill

Watch this example of a simple skill being created:



Alexa
YOUNG
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CHALLENGE

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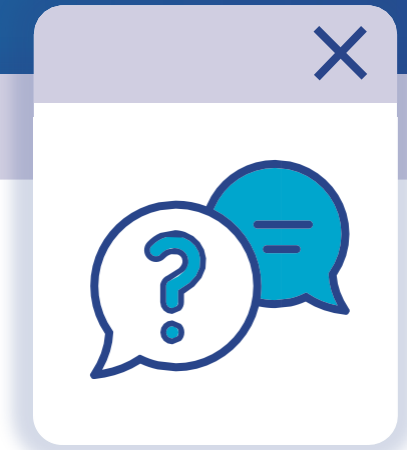
Share your new Alexa custom skill!

- Demonstrate your new Alexa custom skill.
- How did you apply computational thinking to turn your idea into a programmable solution?
- Explain who might use it and how it makes life easier or better.
- Write a Written Reflection (max. 500 words) to explain the messaging and context of your 'Skill for Good'.
- Submit your entries to the Alexa Young Innovator Challenge using the following link:

<https://www.rocketjudge.com/register/Alexa-YIC>



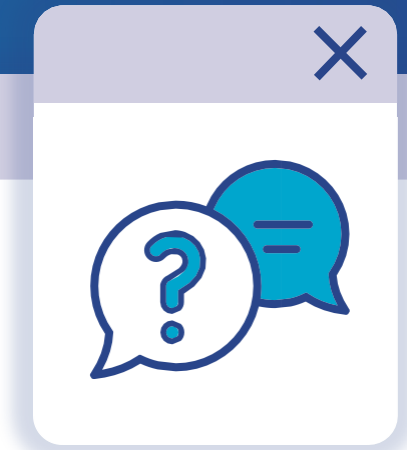
How did you do?



- Did you set yourselves an ambitious goal?
- Could you break your problem down?
- Did you identify what parts were important?
- Did any patterns help you plan your utterances?
- How easily could you use the development tool to program Alexa?
- What works well about your Alexa custom skill?
- What would you like to add or improve?



How could AI make a better future?



Imagine the future – 20 years from now.

How might people be interacting with computers?

How might AI have developed in this time?

How is AI making life easier or better?

What new things does AI allow people to do?

