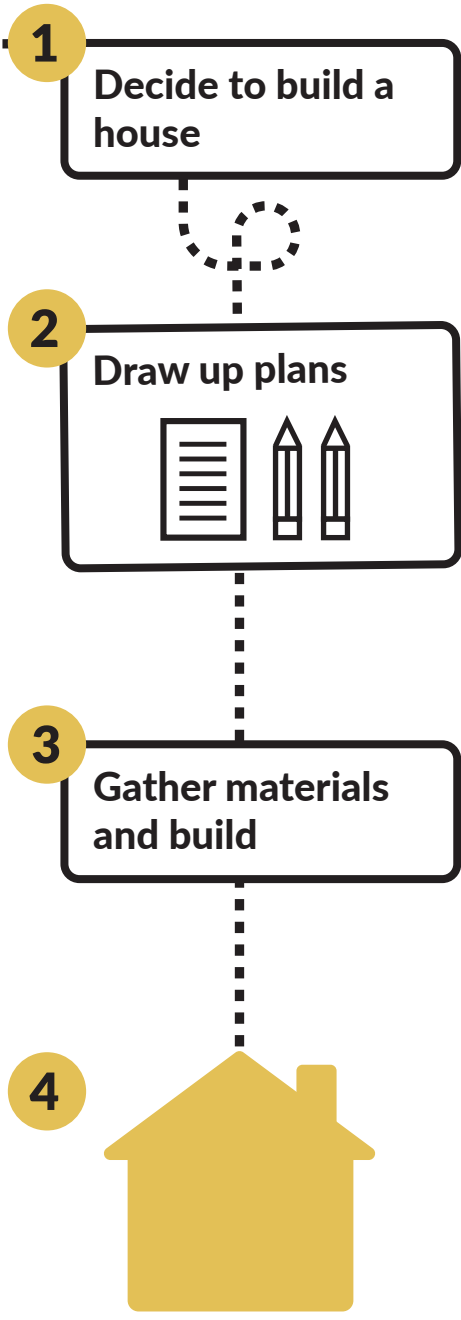




How to build a project

These worksheets will help you to design and build a project from start to finish!

In any project, there are a number of steps that need to be carried out. For example, some of the steps a person might carry out when building a house are:



Ready to start designing your own project?

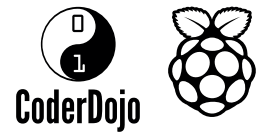
Let's go!

Name:

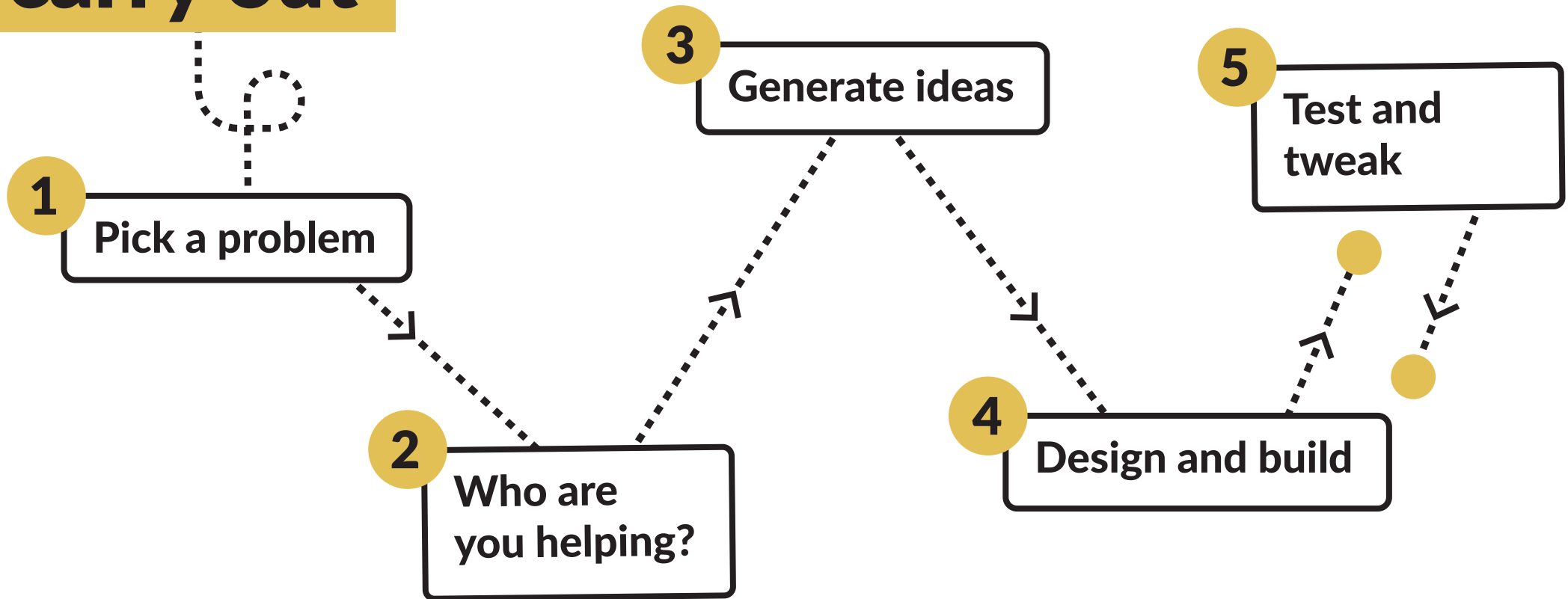
.....
.....

Date:

.....



These are the steps you will carry out



If you want to read more about these steps, check out the Meta-Sushi Cards at dojo.soy/design-sushi



1

Pick a problem

Every project has a purpose! You need to define what your project does and who it is for.

Who will use your project? This could be:

- A specific person, such as your friend, cousin, teacher, or grandparent (or even you yourself!)
- A specific group of people, such as the people in your Dojo or school, or in your sports team or dance group
- A general group or category of people, such as all young people of a certain age, people with a disability, parents, pet owners

I am making this project for

.....

I want to help them to

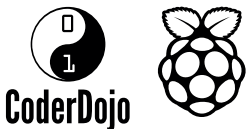
- | | | | |
|-------------------------|-----------------------|----------------------|-----------------------|
| Have fun | <input type="radio"/> | Create | <input type="radio"/> |
| Share something | <input type="radio"/> | Find | <input type="radio"/> |
| Learn about | <input type="radio"/> | Do their homework | <input type="radio"/> |
| | | Make friends | <input type="radio"/> |
| Do something else | <input type="radio"/> | Prepare for | <input type="radio"/> |
| | | | |
| Organise an event | | (e.g birthday party) | <input type="radio"/> |

I want to help them because

.....

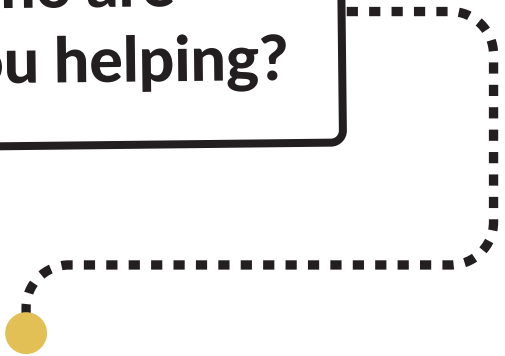
.....

Research the problem you are solving – has somebody done something similar? If so, how did they do it?



2

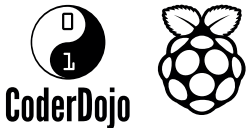
Who are you helping?



Now that you know who will use your project, put yourself in their shoes and try to understand their needs. This is called empathising. Become a detective and ask questions!

Try to find out answers to some of the questions below – and perhaps you can think of some questions of your own too.

If you can, work together with a person who will use your project when doing this step.



1

How will your project help them?

.....
.....

2

Things they would like to be part of the project

.....
.....

3

Things they don't want

.....
.....

4

What do they need?

.....
.....

5

Have they used this kind of technology before?

.....
.....

6

Are they comfortable with devices such as:

- Computers
- Smartphone or tablets?

.....
.....

When you're making something, it's important to always think about the needs of the person or people who will use your project.



3

Generate ideas

Think big!

What will you make?

Try drawing pictures instead of writing words.

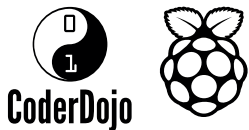
Don't think about whether the ideas are good or even realistic!

Come up with three possible solutions to the problem you've picked.

What if we had a...?

Draw ideas here

Sometimes it can be hard to come up with ideas, but that's OK! The ideas don't have to be great, the main thing is to fill all three boxes with something.



3 Generate ideas

How will you make it?

Look at the ideas you wrote down and sketched out, and pick your favourite one.

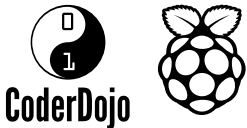
Think about how you might go about making it real.

What are some things your project will do?

Imagine telling people what your project idea is. What might they think your project will do that it actually won't do?

It's good to define what your project will not do before you start building it, because then you can focus on making it great at what it does do!

What technology will you use?



4

Design and build

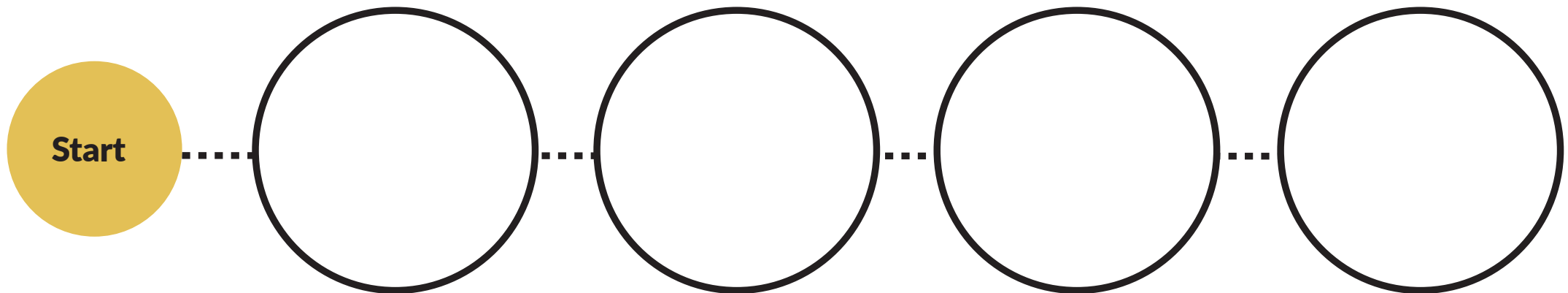
It's time to design your project!

First, plan out the overall design for how it will work. Use this page to list the things it will do, and in what order it will do them.

Some questions to think about here are:

- Will there be different parts to your project?
- How are they organised and connected?
- Will a person interact with the project? What steps will they go through when using it?
- Will there be things like pictures, characters, buttons, or sounds?
- Is there a start and an end?
- What information will you need?

In the circle, describe the first step for a person using the project. Try to complete the diagram by adding more steps!



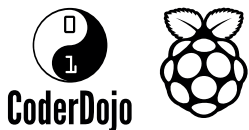
4

Design and build

Next, sketch out how your project will look.

If you're making a software project, draw pictures of the screens you'll create. If yours is a hardware project, make a sketch of what it will look like in action. If it's an animation or story, draw some of the main scenes and characters.

- What is the first screen?
- How will a person navigate your project (will they need to navigate it)?
- How will a person learn how to use the project?
- What happens at the end?
- Will your project use feedback to tell the user things, e.g. with flashing lights, sound, or messages?



You can sketch things here, or find blank templates for different types of screens and devices at dojo.soy/design-screens

Once you're happy enough with your design, it's time to get building! Use these sheets as your guide. You don't have to build the whole thing at once – do just enough so that somebody can try out a little bit of it. Then come back here and move on to the next step before continuing to code or build! This stage of your project is the prototyping stage. A working version of your project that is ready to try out is called a prototype.

Don't worry about getting it perfect the first time – you can improve your prototype after you get some feedback from your user!



5

Test and tweak

Show your prototype to somebody and have them try to use it! Don't help them immediately if they have problems or get stuck — you won't be there to explain things every time someone uses your project. Take some notes on this sheet about how the testing goes, so that you can decide whether you need to make any tweaks or changes.

Person testing:

.....

Date:

.....

What did they test?

.....

Ask them questions about the thing they tested.

1 What did they think of it overall?

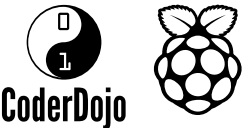
It's great, I love it!	It was ok.	Something needs to change.
------------------------	------------	----------------------------

2 What parts worked? What did they like best?

.....

3 What improvements could be made? Is anything missing?

.....
.....
.....



How did the testing go?

Are you done? Do you need to go back and do some more work? When working on a project, you usually repeat some of the steps above a few times, testing your prototype each time. This is called iterating, and designers and coders all over the world do it every day! It's normal for a project to go through quite a few iterations (some projects are never fully finished!) before it's done.

Decide what you will do next:

- Generate new ideas
 More coding or building
- Do some more designing
 Finished!

Plan of action:



If you're going back to do some more work on the project, then return to this section afterwards and run more tests!

You can find more blank test pages at dojo.soy/design-test