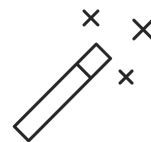
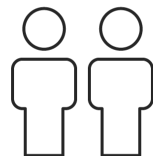
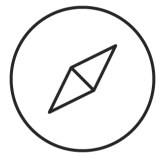




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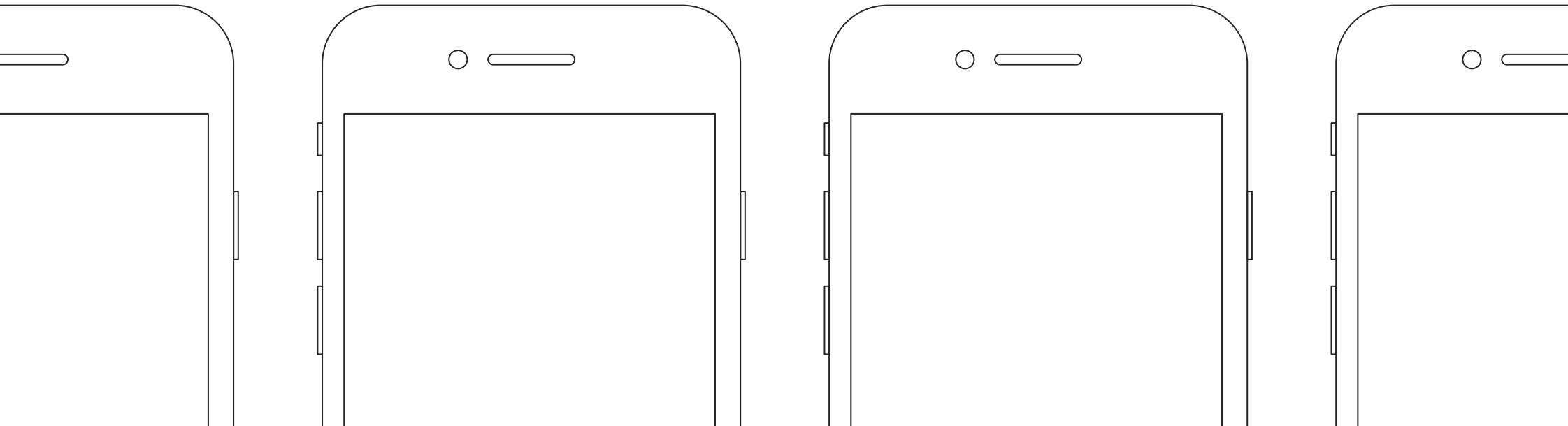
Student workbook

INTRODUCTION TO APP DEVELOPMENT



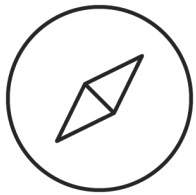
Welcome

In this project, you and your team will work together to design and build an app that solves a problem you care about.



The process

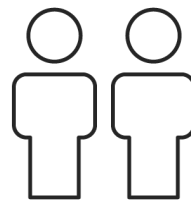
You will work your way through a range of activities, split across 5 modules.



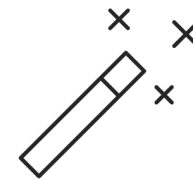
1. Crash course



2. Idea generation



3. Scoping



4. Product development

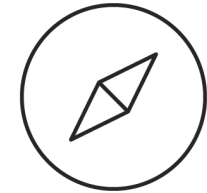


5. Pitch



MODULE 1

CRASH COURSE



Session 1

Launch

Activity

- 1.1 – [Enter project details](#)
- 1.2 – [Sign the co-founder agreement](#)
- 1.3 – [Understand team roles](#)
- 1.4 – [Agree team roles](#)
- 1.5 – [Review existing apps](#)
- 1.6 – [Create a wireframe prototype](#)
- 1.7 – [Think about your world](#)

ACTIVITY 1.1

ENTER PROJECT DETAILS

MODULE 1

CRASH COURSE



Basic details	Success criteria
<p>Name</p> <p>Class</p> <p>Project start date</p> <p>Project end date</p>	<p>Project</p> <p>Teamwork</p>

To get your project started, make a record of your team and project details. Set yourself some success criteria. What would you like to achieve as a result of completing this project? e.g. improve your programming skills, improving the way you communicate with others.

NAME

ACTIVITY 1.2

SIGN THE CO-FOUNDER AGREEMENT

MODULE 1

CRASH COURSE



Discuss these questions and tick as appropriate			Signatures and share ownership	
How will decisions get made?	<input type="checkbox"/> MAJORITY	<input type="checkbox"/> PLURALITY	SIGNED	%
How will share ownership be split?	<input type="checkbox"/> EQUALLY	<input type="checkbox"/> OTHER	SIGNED	%
What happens if a team member leaves?	<input type="checkbox"/> LOSES SHARES	<input type="checkbox"/> KEEPS SHARES	SIGNED	%
Discuss these values and tick five that are most important to the team			SIGNED	%
<input type="checkbox"/> USER-CENTRED	<input type="checkbox"/> INNOVATIVE	<input type="checkbox"/> CURIOUS	SIGNED	%
<input type="checkbox"/> CREATIVE	<input type="checkbox"/> COLLABORATIVE	<input type="checkbox"/> BUSINESS-SAVVY	SIGNED	%
<input type="checkbox"/> ETHICAL	<input type="checkbox"/> PASSIONATE	<input type="checkbox"/> HARD-WORKING	DATE	

It's important that all team members agree some things from the start. Decide how decisions will get made. 'Majority' means that a decision requires support from more than 50% of team. 'Plurality' means the largest number of voters.

NAME

ACTIVITY 1.3

UNDERSTAND TEAM ROLES

MODULE 1

CRASH COURSE



Organiser	Designer	Tech specialist
<input type="checkbox"/> Can do <input type="checkbox"/> Want to try Explanation	<input type="checkbox"/> Can do <input type="checkbox"/> Want to try Explanation	<input type="checkbox"/> Can do <input type="checkbox"/> Want to try Explanation
Entrepreneur	Communicator	Preferred role
<input type="checkbox"/> Can do <input type="checkbox"/> Want to try Explanation	<input type="checkbox"/> Can do <input type="checkbox"/> Want to try Explanation	

Using the Team Role cards, review the different roles needed in a team. Which are you already able to do? Which would you like to try? Can you explain why? Use these notes to help you negotiate your role in the team for this project.

NAME

ACTIVITY 1.4
AGREE TEAM ROLES

MODULE 1
CRASH COURSE



Team name		
Organiser	Designer	Tech specialist
Entrepreneur	Communicator	

Use this page to record who is going to cover each team role. Remember, people can cover more than one role.

NAME

ACTIVITY 1.5

REVIEW EXISTING APPS

MODULE 1

CRASH COURSE



App 1	App 2
<p>App name</p> <p>Problem it solves</p> <p>Who the app is for</p> <p>Phone features used</p>	<p>App name</p> <p>Problem it solves</p> <p>Who the app is for</p> <p>Phone features used</p>

To help you understand what type of problems apps can solve think about two different apps you have used. For each app make a note of the problem the app is solving, who it's for, and the phone features it uses.

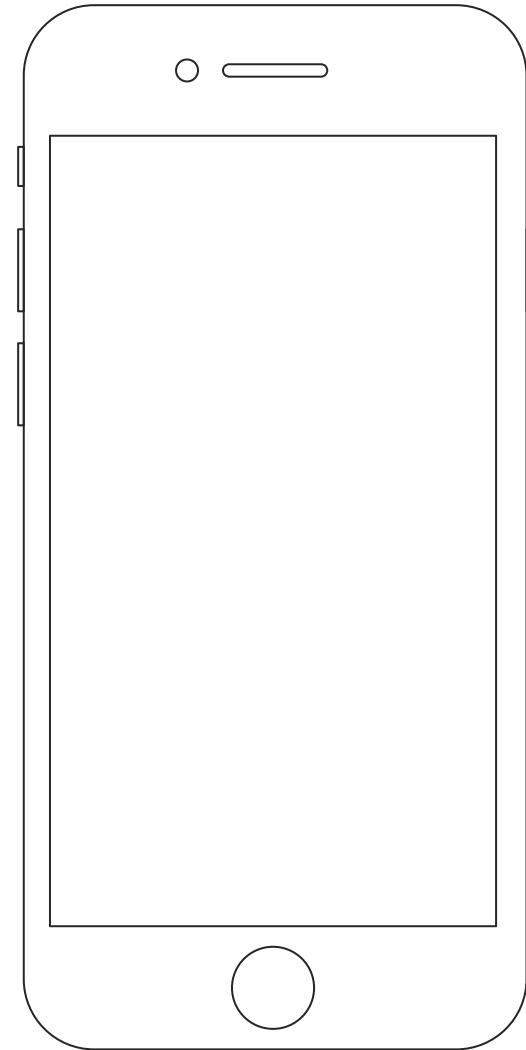
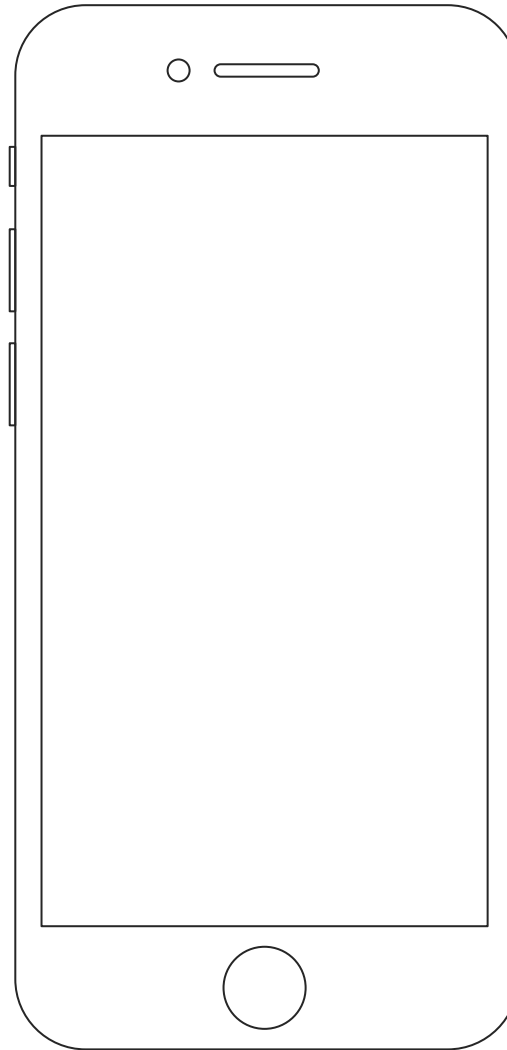
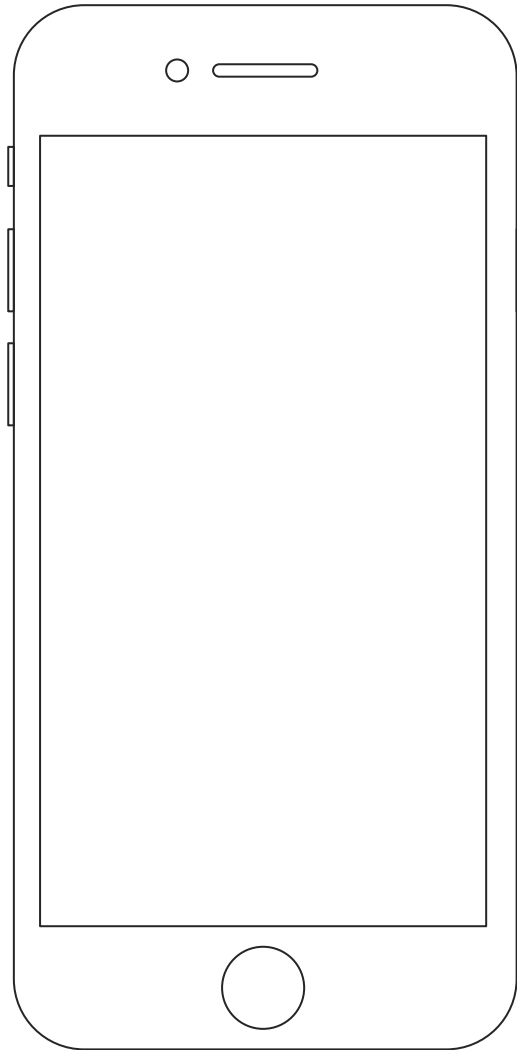
NAME

ACTIVITY 1.6

CREATE A WIREFRAME PROTOTYPE

MODULE 1

CRASH COURSE



Prototyping tools help us to build simple versions of our app ideas. We create prototypes so that we can share ideas with our team, and test concepts with our target users. Sketch key screens of your favourite app, then create those screens and link them together using a prototyping tool.

NAME

ACTIVITY 1.7

THINK ABOUT YOUR WORLD

MODULE 1

CRASH COURSE



My hobbies	Communities I belong to
My interests	Things I'm passionate about

Your hobbies and interests, the communities you belong to and the things you are passionate about may give you some ideas for problems that can be solved with an app. Discuss your ideas with your team at the start of the next session.

NAME

MODULE 2

IDEA GENERATION



Session 2

What's your problem?

Activity

- 2.1 – [Spot possible problems](#)
 - 2.2 – [Explore problems using the 5 Ws](#)
 - 2.3 – [Draft mini elevator pitches](#)
-

Session 3

Screening ideas

Activity

- 2.4 – [Filter through problems](#)
- 2.5 – [Conduct market research](#)
- 2.6 – [Narrow to 3 elevator pitches](#)
- 2.7 – [Choose an app idea to take forward](#)

ACTIVITY 2.1

SPOT POSSIBLE PROBLEMS

MODULE 2

IDEA GENERATION



Problem	Problem	Problem
Who it affects <input type="checkbox"/> MANY APPS SOLVE THIS PROBLEM	Who it affects <input type="checkbox"/> MANY APPS SOLVE THIS PROBLEM	Who it affects <input type="checkbox"/> MANY APPS SOLVE THIS PROBLEM
Problem	Problem	Problem
Who it affects <input type="checkbox"/> MANY APPS SOLVE THIS PROBLEM	Who it affects <input type="checkbox"/> MANY APPS SOLVE THIS PROBLEM	Who it affects <input type="checkbox"/> MANY APPS SOLVE THIS PROBLEM

Designing a successful app starts with finding a real problem that needs a solution. Brainstorm problem ideas with your team and record them here. It is worth having a quick check at this stage to see if whether the market is already full of apps addressing the problem you have identified.

NAME

ACTIVITY 2.2

EXPLORE PROBLEMS USING THE 5 WS

MODULE 2

IDEA GENERATION



Problem	Who?	What?
Where?	When?	Why?

You'll need to understand the problems you've identified inside and out. Divide your problem ideas up amongst your team and note down the 5Ws below for each.

NAME

ACTIVITY 2.3

DRAFT MINI ELEVATOR PITCHES

MODULE 2

IDEA GENERATION



Pitch idea	
Our team is called...	
We're creating...	<i>(the type of app)</i>
aimed at...	<i>(the target user)</i>
to help them to...	<i>(the problem / challenge)</i>
by providing them with...	<i>(the possible solution)</i>

Turn problems into product ideas with a mini 'elevator pitch'. As an example. "Our team is called Zen Studio. We're creating a native app aimed at students to help them to wake up earlier by providing them with incentives to get up."

NAME

ACTIVITY 2.4

FILTER THROUGH PROBLEMS

MODULE 2

IDEA GENERATION



Mass market ideas

Lots of people affected

Game-changing ideas

Low impact on people's lives

High impact on people's lives

Low appeal ideas

Few people affected

Niche ideas

If you're going to invest time in designing an app, you need to be sure your problem is worth solving. For the problems you've identified, consider how many people it impacts, and level of impact, then plot each problem in the 2x2 grid. Problems bottom left are unlikely to be successful.

NAME


ACTIVITY 2.5

CONDUCT MARKET RESEARCH

MODULE 2

IDEA GENERATION



App idea		Number of similar apps <input type="checkbox"/> None <input type="checkbox"/> Up to 5 <input type="checkbox"/> More than 5	
For the existing app closest to your app idea complete the following			
Name of app	Price	Number of downloads	App rating 
Target user	Features meeting user needs		App reviews

There's little point in designing an app that offers something someone else is already doing well. You need to make sure you know who your competitors are. Divide your mini elevator pitches amongst your team. For each, find related apps that are already available.

NAME

ACTIVITY 2.7

CHOOSE AN IDEA TO TAKE FORWARD

MODULE 2

IDEA GENERATION



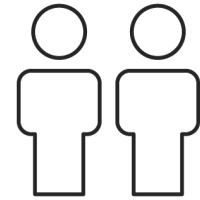
App idea 1	App idea 2	App idea 3
<p>App name</p> <p>Number of people affected</p> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <p>Level of impact on people's lives</p> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <p>Technical feasibility of idea</p> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <p>Understanding of the problem</p> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<p>App name</p> <p>Number of people affected</p> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <p>Level of impact on people's lives</p> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <p>Technical feasibility of idea</p> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <p>Understanding of the problem</p> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<p>App name</p> <p>Number of people affected</p> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <p>Level of impact on people's lives</p> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <p>Technical feasibility of idea</p> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <p>Understanding of the problem</p> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>

Decide which of your ideas to develop into an app. Grade each app idea based on the criteria above. Circle or tick the app idea you have chosen to take forward.

NAME

MODULE 3

SCOPING



Session 4

Get to know your
users

Activity

- 3.1 – [Create a user profile](#)
- 3.2 – [List user needs and features](#)
- 3.3 – [Conduct a user survey](#)

ACTIVITY 3.1

CREATE A USER PROFILE

MODULE 3

SCOPING



Basic details	Drivers	App preferences
Name Age Occupation Location	Key goals Big frustrations	Favourite app and why Least favourite app and why

To make sure your app's features are fit for purpose, you need to have a very clear idea of who your user is and what they want. A user profile helps you capture basic details about the person you are designing for.

NAME

ACTIVITY 3.2

LIST USER NEEDS AND FEATURES

MODULE 3

SCOPING



User need	User need	User need
Feature idea	Feature idea	Feature idea
User need	User need	User need
Feature idea	Feature idea	Feature idea

Explore your user's needs in more detail. Try to come up with ideas for features that could meet those needs.

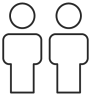
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ACTIVITY 3.3

CONDUCT A USER SURVEY

MODULE 3

SCOPING



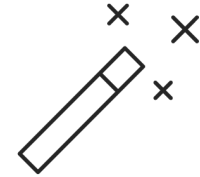
Questions for the survey	Key results from the survey

Create a survey to find out more about potential users. Use pen, paper, and a clipboard to run your survey. Or use an online form builder, such as [Google Forms](#), [Wufoo](#), [SurveyMonkey](#), or [Typeform](#).

NAME

MODULE 4

PRODUCT DEVELOPMENT



Session 5

MVP planning

Activities

4.1 – [Evaluate product features](#)

4.2 – [Design MVP](#)

Session 6

Tech feasibility

Activity

4.3 – [Assess technical feasibility](#)

Session 7

Build MVP

Activity

4.4 – [Reflect on prototyping tool](#)

Session 8

User testing

Activities

4.5 – [Plan a user test](#)

4.6 – [Conduct a user test](#)

Session 9

Who will pay?

Activity

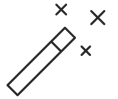
4.7 – [Develop the business model](#)

ACTIVITY 4.1

EVALUATE PRODUCT FEATURES

MODULE 4

PRODUCT DEVELOPMENT



Features to simplify

Most useful features

MVP features

Unfeasible (Tech & Data)

Feasible (Tech & Data)

Non-essential features

Least useful features

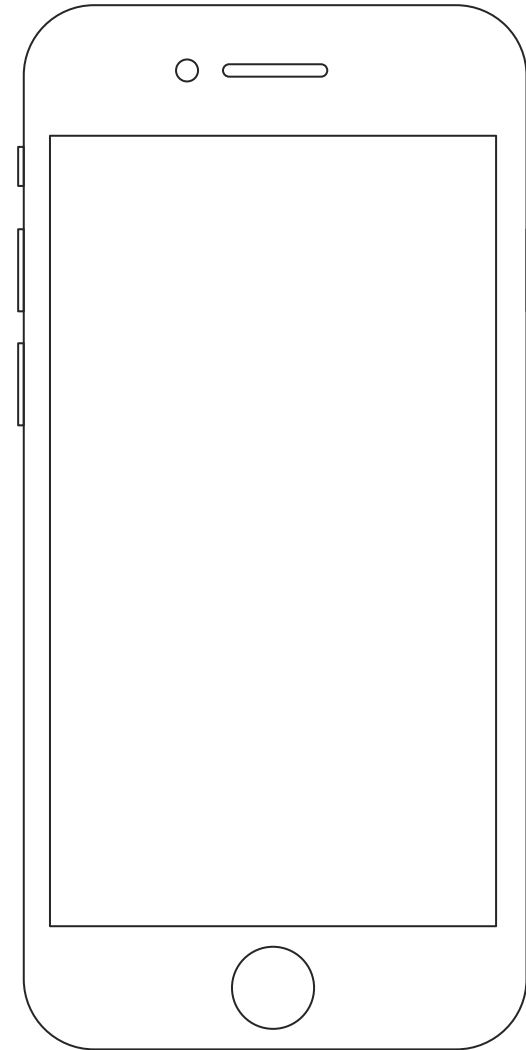
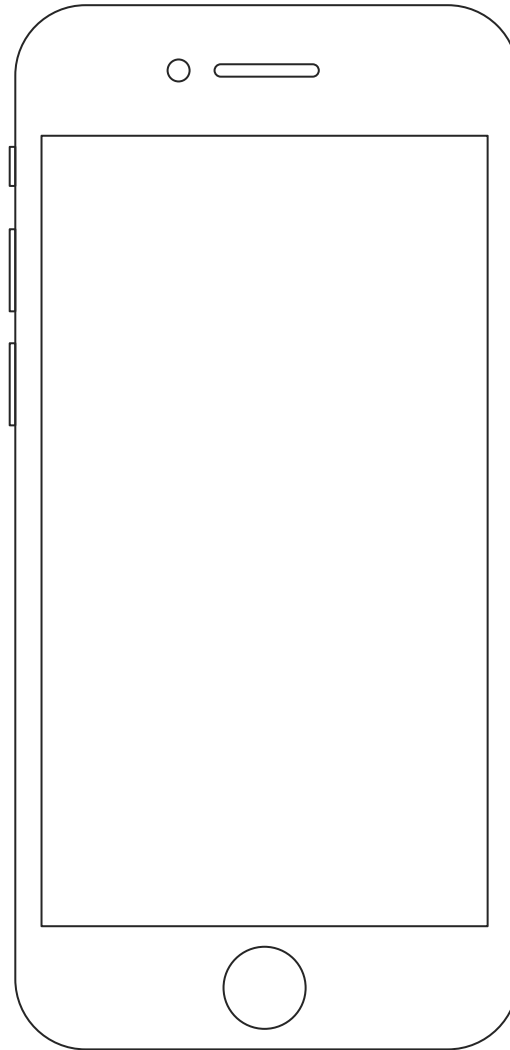
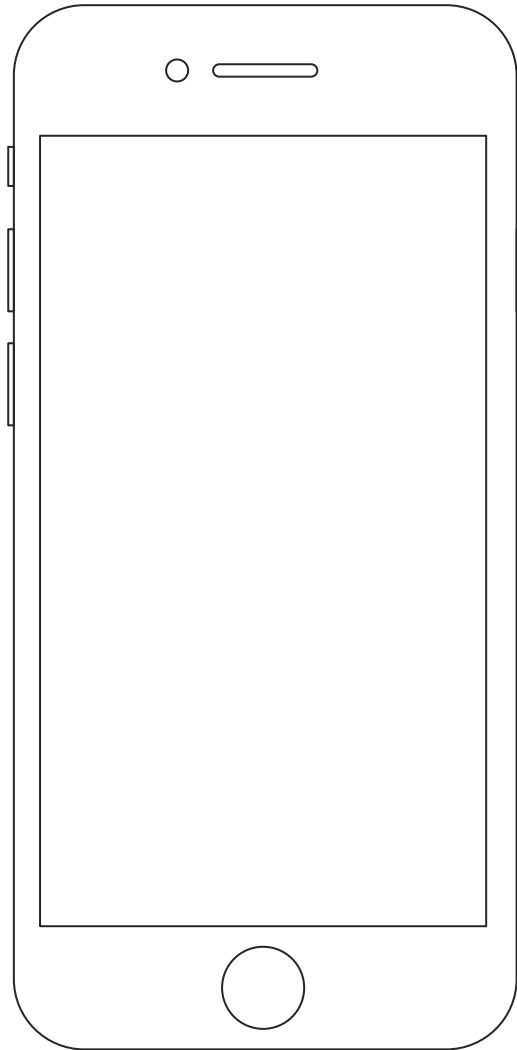
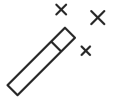
For future versions

You need an app that has at least one essential feature for your user, and that feature needs to be technically feasible. Review your list of possible features and decide where on this grid they belong. Are these features essential? Are they technically feasible?

NAME

ACTIVITY 4.2
DESIGN MVP

MODULE 4
PRODUCT DEVELOPMENT

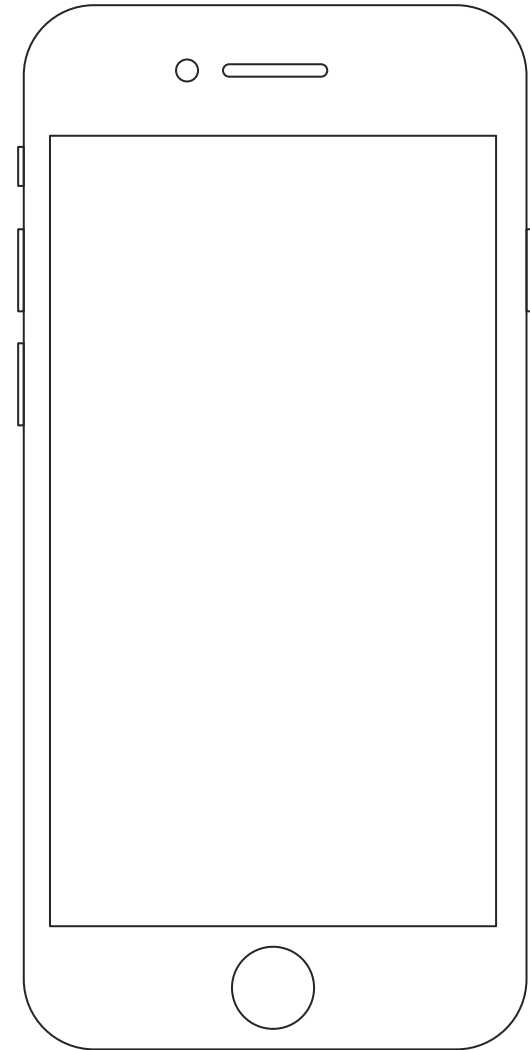
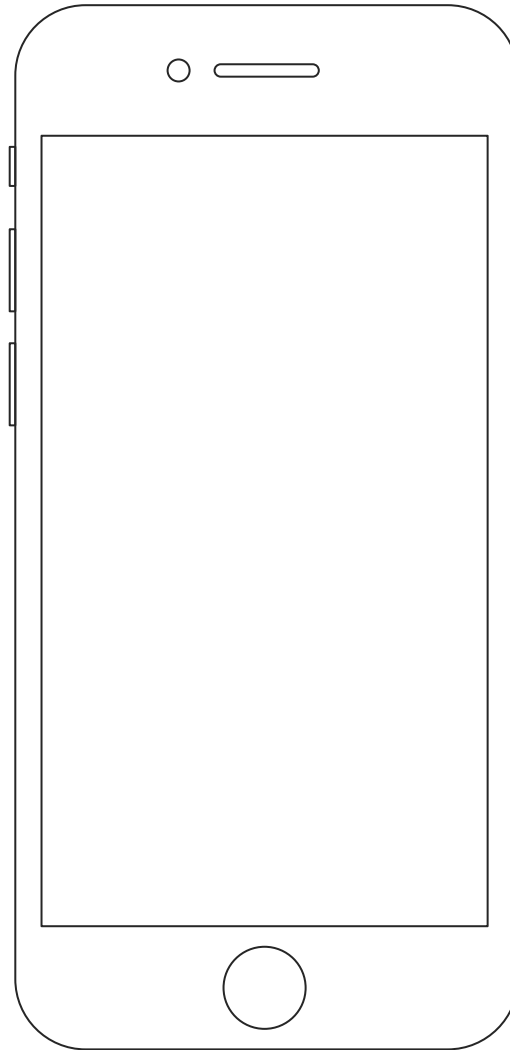
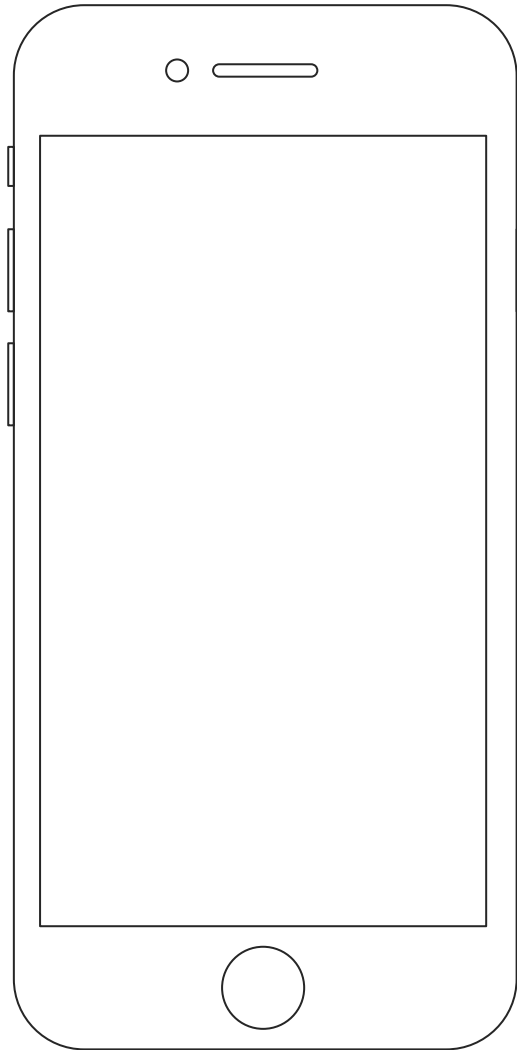


Thinking about essential and feasible features, sketch out how you want your screens to look. Consider what the user sees when they open the app, and how they move through screens and use important features.

NAME

ACTIVITY 4.2
DESIGN MVP

MODULE 4
PRODUCT DEVELOPMENT



Thinking about essential and feasible features, sketch out how you want your screens to look. Consider what the user sees when they open the app, and how they move through screens and use important features.

NAME

ACTIVITY 4.3

ASSESS TECHNICAL FEASIBILITY

MODULE 4

PRODUCT DEVELOPMENT



DATA INPUT	PROCESS	OUTPUT
What data do you need for the desired output?	What do you need to do to the input data to achieve the desired output?	What is the desired output of your app?
Next steps		

At this stage in the design process, researching technical feasibility of your app and how to prototype it will be invaluable.

NAME

ACTIVITY 4.4

REFLECT ON PROTOTYPING TOOL

MODULE 4

PRODUCT DEVELOPMENT



Tools used	
Things this tool did well	Ways this tool could have been better
Prototyping tools you'd like to try and why	

Through prototyping, we can turn ideas into something tangible. Reflect on the tool you used, noting down any tools you'd like to try.

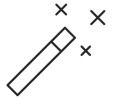
NAME

ACTIVITY 4.5

PLAN A USER TEST

MODULE 4

PRODUCT DEVELOPMENT



What do you want feedback on?	What do you want feedback on?	What do you want feedback on?
What will you ask the tester to do?	What will you ask the tester to do?	What will you ask the tester to do?
What do you want feedback on?	What do you want feedback on?	What do you want feedback on?
What will you ask the tester to do?	What will you ask the tester to do?	What will you ask the tester to do?

Consider what you want to learn about your idea and prototype. Do you want to test the overall proposition? Do you want to test some functionality, such as the sign up flow, or how well a user finds a particular feature?

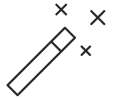
NAME

ACTIVITY 4.6

CONDUCT A USER TEST

MODULE 4

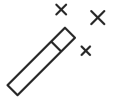
PRODUCT DEVELOPMENT



Person we're testing with	<input type="checkbox"/> Real test <input type="checkbox"/> Role play	
Positives	Suggested improvements	
Next steps		

Find time to conduct the test. Inform the test subject of how long it will take, and thank them for their time. Make notes of the feedback.

NAME

ACTIVITY 4.7**DEVELOP THE BUSINESS MODEL****MODULE 4****PRODUCT DEVELOPMENT**

Free with adverts	In-app purchases
What might your user be interested in buying?	What in-app purchases could you offer?
Freemium	Paid for app
What free features could work as a standalone app?	What in your app is worth paying for?
Chosen business model(s)	

Think about how you will make money from your app. Identify which business models are feasible for your product. Consider all the options and remember, you could have a mix of revenue streams.

NAME

MODULE 5

PITCH



Session 10

Pitch it

Activities

- 5.1 – [Prepare your pitch](#)
- 5.2 – [Reflect on your project](#)
- 5.3 – [Teacher feedback](#)

ACTIVITY 5.1

PREPARE YOUR PITCH

MODULE 5

PITCH



App name and slogan	Our problem	Our app
Team member _____ Notes:	Team member _____ Notes:	Team member _____ Notes:
Our prototype	Target users	Conclusion
Team member _____ Notes:	Team member _____ Notes:	Team member _____ Notes:

It is now time to tell people about your app idea. Telling other people about your product and persuading them to buy it is known as pitching. Use this worksheet to divide up the presentation and allocate sections to each member of the team.

NAME

ACTIVITY 5.2

REFLECT ON YOUR PROJECT

MODULE 5

PITCH



What has gone well with your app development?	What could have gone better with your app development?
What has been good about how your team has worked together?	How could your team have worked better together?

Reviewing a project helps you identify what went well, and what not so well, so that you can improve how you work in your next project. It's something all tech development teams do. Review your progress against the success criteria you drew up at the start of the project.

NAME

ACTIVITY 5.3
TEACHER FEEDBACK

MODULE 5
PITCH



What went well	Even better if
Targets and next steps	

Your teacher will use this page to provide you with feedback.

NAME

Ace, course complete!

Making great apps requires hard work and constant improvement. App development is a journey. Where will your journey end?

