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Longitude
Explorer
Prize

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Challenges

Technology and Ethics Worksheet

Why is thinking about ethics and technology important?

Technology has the potential to be used for social good in many ways.

It is essential to consider ethics as part of developing any technological solution as this will help ensure that the solution have a positive impact for all (beyond just the user). This also gives those ideas a competitive advantage!

You wouldn't like to use something that is poorly designed, right?

How do I use the worksheet?

The worksheet is here to help you think about the impact your idea could have on individuals, groups, wider society and even the environment.

It is okay if your team doesn't have answers to all the key questions have answers straight away but it is important to consider them as you develop your ideas further throughout the Prize.

Ethics Principles	Key Questions	Your Answers
<p>1. The benefits</p> <p>What makes your idea great? Think about all the reasons and make a list.</p> <p>Remember that your idea might not just affect the individual who uses it (the user).</p> <p>Think about who else might be affected by it, for example, it might affect different groups of people in different ways, it might impact a community or even society as a whole.</p> <p>It's important to know all the possible benefits so you can compare them all the possible risks - the benefits should always outweigh the risks!</p>	<ul style="list-style-type: none"> • What problem or issue are your addressing? • Who will your idea affect (individuals, groups, wider society, the environment)? • Do the benefits of your idea outweigh the risks? (Important!) • Do you think this could change in the future? 	
<p>2. Safety</p> <p>No one wants their personal information to be used by the wrong people.</p> <p>Always consider who you are and aren't happy giving information to.</p> <p>Products (your idea) can malfunction/go wrong, but they can also be used in a way you might not have thought about, for example they might be used to take advantage of other people.</p> <p>It is important to keep the people (and their data) who use your product safe so they keep using your product.</p>	<ul style="list-style-type: none"> • Is my solution safe? • Can people use my product to cause others harm? (either intentionally or unintentionally) • What else can I do to protect people who use your product (your users)? • How do I explain the risks so my users can understand? • If something goes wrong, how can my users tell me? 	

Ethics Principles	Key Questions	Your Answers
<p>3. Data</p> <p>Data is what we call different types of information that is recorded. Data can be words, numbers, images.</p> <p>Data can tell you a lot about an individual or situation. Data represents something that we have measured.</p> <p>As data can tell you a lot about an individual or situation, we must respect individuals privacy.</p> <p>There are ways to protect the user/individual from others identifying them from their data.</p> <p>It is also important for data to not have any errors in it. Data should not be biased (bias is when the information you have doesn't actually represent the real world).</p>	<ul style="list-style-type: none"> • How did I get my data? • Did I ask the owner (the individual/user) for permission? • Can I track my data back to the individual? • Is the data accurate and up to date? • What if users want to see what information about them I have? 	
<p>4. Trust</p> <p>Trust is built and earned over time. What do you trust, what don't you trust? For example, when we meet new people it takes time to trust them. This is the same for new products we use. Discuss in your group.</p> <p>Understanding what something is doing makes it easier to trust it.</p> <p>Unless it is doing something you aren't comfortable with...</p>	<ul style="list-style-type: none"> • Can my users understand what the technology I've built is doing? • How do I help them understand? • Am I working with data or organisations that my users would be uncomfortable with? • How easy is it for users to tell me about their concerns? 	

Ethics Principles	Key Questions	Your Answers
<p>5. Diversity</p> <p>Working together with lots of different people is fun and can help you solve problems in ways you wouldn't normally consider.</p> <p>Different people are interested in or concerned about different things.</p> <p>Talk in your group and see how your opinions vary. For example, what is your favourite TV show and why?</p> <p>If you are all similar, people who aren't like you might not enjoy using something you've made because they might not feel it relates to them.</p>	<ul style="list-style-type: none"> • Does my data represent everyone? (who makes up our society?) • Is my team representative? • How do I make sure my product isn't biased against any groups of people? 	
<p>6. Communication</p> <p>When you design and sell a product you tell people about it and what it does.</p> <p>It's really important to be as honest and accurate as you can when you do this.</p> <p>It's also important to let people give you feedback so you can improve over time.</p>	<ul style="list-style-type: none"> • How am I talking about my product and users? • Is it clear and inclusive? • If something goes wrong, how do I communicate this to users and others? When would I need to tell them? 	

Ethics Principles	Key Questions	Your Answers
<p>7. Business model</p> <p>What companies do you like? Which ones don't you like? For example, Nike, Facebook, Amazon etc. Discuss in your team.</p> <p>It's important to understand how your idea and product could affect others.</p> <p>Whether it's potentially putting another company out of business, or potentially causing environmental damage. Business decisions have consequences for the world and other people.</p> <p>Through the whole of your project you need to think about how your idea and product could affect other people.</p>	<ul style="list-style-type: none"> • How am I making money out of my product? • Am I selling my data to other people? • Is my product the same price for all users? • If I sold my company in the future, what are the implications for my users and employees? 	

***This is an adaptation of [Digital Catapult's Machine Intelligence Garage Ethics Framework](#) which was developed in partnership with Digital Catapult for the Longitude Explorer Prize 2019, and subsequently repurposed for the Amazon Longitude Explorer Prize 2020.**

