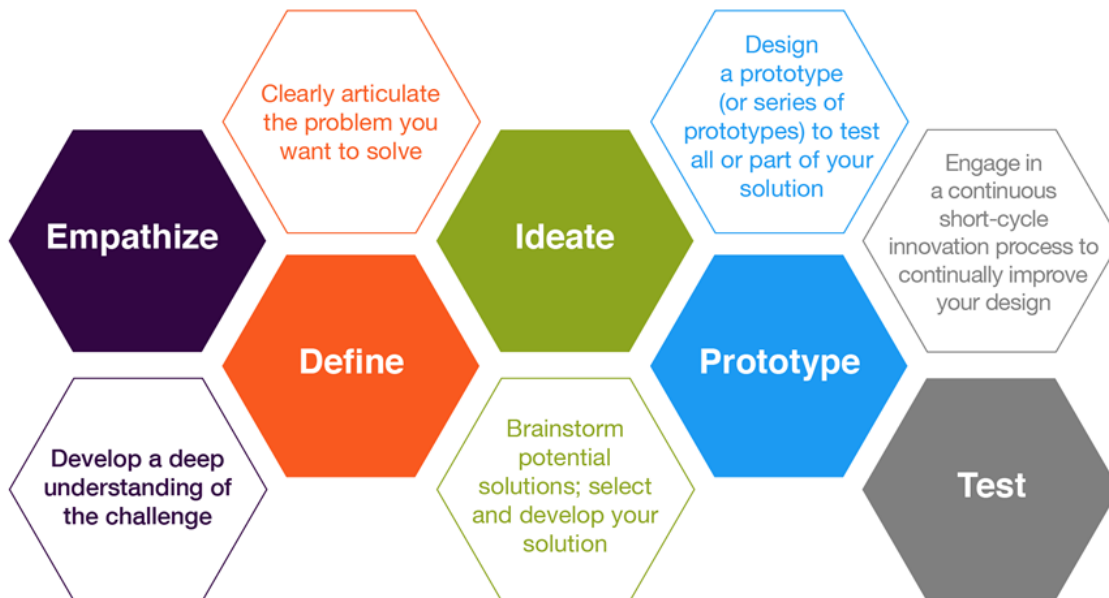
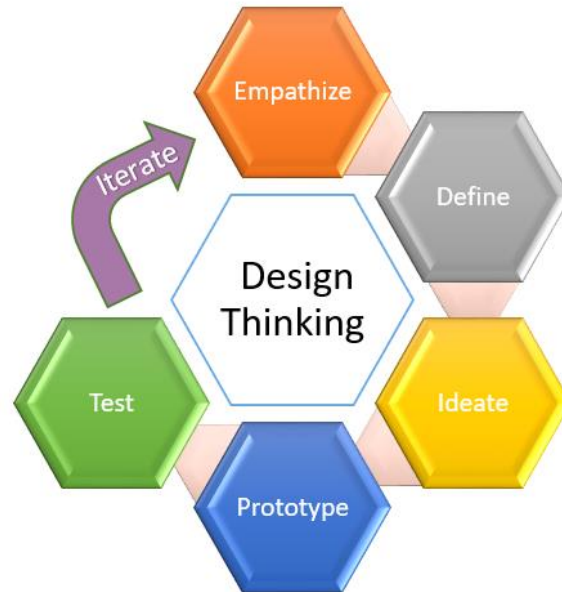


Exercice de création avec le Design Thinking

You will use the iterative development process called Design Thinking to develop your Create app. Remember the repeated steps in Design Thinking:




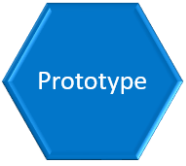

Design Thinking Process

1. **Empathize:** Understand your users
2. **Define:** Analyze the problem
3. **Ideate:** Brainstorm possible solutions
4. **Prototype:** Creatively build simple solutions
5. **Test:** Evaluate the solutions






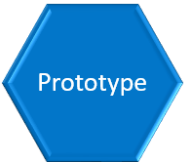

Itération 1: Prototypage papier

Before you start creating the app in App Inventor, you will brainstorm ideas on paper with a partner and present an elevator pitch to your class.

 <p>Empathize</p>	<p>Working in pairs, think about problems in your community and how an app might help to solve those problems or to help people in your community. Who is the target audience or users who will be using the app? What problem does the app address? How does the app address the problem? [TURN IN]</p>
 <p>Define</p>	<p>Consider what types of apps you know how to make and what part of the problem you can solve with your app.</p> <p>Look back at the apps you have created in this class and identify what features you know how to use, such as displaying a sprite on a canvas or putting a marker on a map. Now design your new app using these same features in creative ways.</p>
 <p>Ideate</p>	<p>Brainstorm possible ideas for your app.</p> <p>What would the app do using the techniques you know so far?</p> <p>Which socially useful activity would the app support?</p>
 <p>Prototype</p>	<p>Create paper prototypes of three different brainstorm ideas. [TURN IN]</p> <p>What user interface elements are needed? Write down what each UI element will do. Be creative with your UI!</p>
 <p>Test</p>	<p>Review the three prototypes and select the one you like best to present:</p> <ul style="list-style-type: none"> ● Present a short (2-3 minute) elevator pitch of your project idea to the class. [TURN IN] ● The pitch could follow this template: <i>[name of app] is a [kind of thing] for [the people who would use it] or the problem it solves] that, unlike [similar apps] is able to [the major distinguishing feature of your app].</i> ● Other students should provide feedback [TURN IN]: <ol style="list-style-type: none"> a. Is the proposed app socially useful? Why or why not? b. What are the strengths of the proposed app? c. What suggestions do you have to improve the app? <p>TURN IN:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Description of problem <input type="checkbox"/> Paper Prototypes <input type="checkbox"/> Elevator Pitch <input type="checkbox"/> Feedback

Iteration 2: Application fonctionnelle minimale (Minimal Working App)




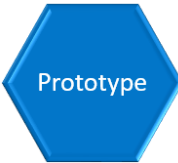

Working in pairs, start a new empty [App Inventor project](#).

 <p>Empathize</p>	<p>Think about the users of your app. What is the simplest version of the app that would still be functional? This is called the MVP (Minimum Viable Product). What functionality could you add later?</p>
 <p>Define</p>	<p>Focus on a simple version of the app, the minimal working app. Define the features of this minimal app.</p> <p>Can you break down this minimal app into parts that you can implement?</p>
 <p>Ideate</p>	<p>Brainstorm ways you can implement each part of your app using specific UI components on the screen, like buttons and images.</p> <p>Brainstorm ideas for the code blocks you may need. What events will your code handle?</p>
 <p>Prototype</p>	<p>Build an initial prototype for your app with your partner. [TURN IN]</p> <p>Start with one simple part of your app and try to implement the UI components and code blocks for that feature. This could be just a User Interface with 1 functioning button.</p> <p>Keep a journal of problems that come up and how you solved them. Describe your process of code development. What are some problems you ran into? How did you solve them? [TURN IN]</p>
 <p>Test</p>	<p>Test out each part of your app as you create it.</p> <p>Try to get to a minimal viable app which you can test.</p> <p>Have other students test your app.</p> <p>TURN IN:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Minimal Working App <input type="checkbox"/> Journal describing code development and problems and solutions.



Itération 3: Ajouter des fonctions

At this point, you and your partner could continue to work together or you could each make a copy of the project and continue adding some features on your own (recommended for AP).

	<p>Imagine you talk to some users of your app and they ask for some more features beyond the minimal app you have so far.</p> <p>What features do you think users would like?</p>
	<p>Define the new features you want to add to your app.</p> <p>For the Create 1 project, your project should have at least 1 variable, 1 procedure that you have defined, and use an if block.</p> <p>For the Create 2 project, your project should use a List or a database like TinyDB for handling data, as well as procedures that you have defined, and if or loop blocks.</p> <p>If you are in an AP course, which features could address the AP requirements of:</p> <ol style="list-style-type: none"> 1. Your app must implement an algorithm you developed on your own. It must include two or more parts within it and must integrate mathematical and/or logical concepts. 2. An abstraction, like a procedure block, that makes the code more compact, readable, or reusable.
	<p>Brainstorm for how to implement new features in your app. Try to break down each feature into small parts including specific UI components and code blocks. You may find the paper screens help with different brainstorming ideas. If you are in an AP course, brainstorm ideas for how to satisfy the AP requirements.</p>
	<p>Save a new version of your app and add new features [TURN IN], so you can always go back to the previous working version. Try to implement new features one at a time. Document your code and write your development process in your journal and problems you encountered and how you solved them [TURN IN].</p>
	<p>What would be appropriate test cases for the new features? What would be good inputs and expected outputs to test? Create a table of these inputs and record the outputs of your app as you test it [TURN IN].</p> <p>TURN IN:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Your app that meets the grading rubric standards. <input type="checkbox"/> Journal describing code development and problems and solutions.

Itérations suivantes :

Continue adding features and testing your app following the iterative design thinking cycle.



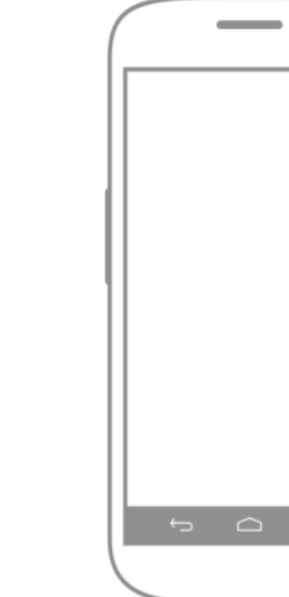

Vidéo:

At the end of this project, create a 1 minute anonymous video presentation providing a demo of your working app. See [How To: Create an App Video](#) for help with creating a video.

Fiche de synthèse du projet :

Follow the AP or Non-AP Create pages at course.mobilecsp.org for directions on how to write up and turn in your Create project.

Modèle pour le prototypage papier de l'itération 1

	project	date
		
Notes: _____ _____ _____ _____ _____	Notes: _____ _____ _____ _____ _____	Notes: _____ _____ _____ _____ _____