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## Description

The Coding for Social Change (CSC) program is a series of nine virtual workshops that run from 10-11:30 am every Saturday between Oct 2-Dec 4, 2021 (except for Oct 9). In this beginner-friendly workshop series, Grade 7-10 students will build an app using [Thunkable](#), which is a drag-and-drop app builder. They will also plan their app design through creating paper prototypes, discuss issues related to ethical design of mobile apps, apply basic coding concepts, and communicate their project in a way that is accessible and meaningful to a general audience. All workshops will be offered virtually via Zoom.

## Learning objectives

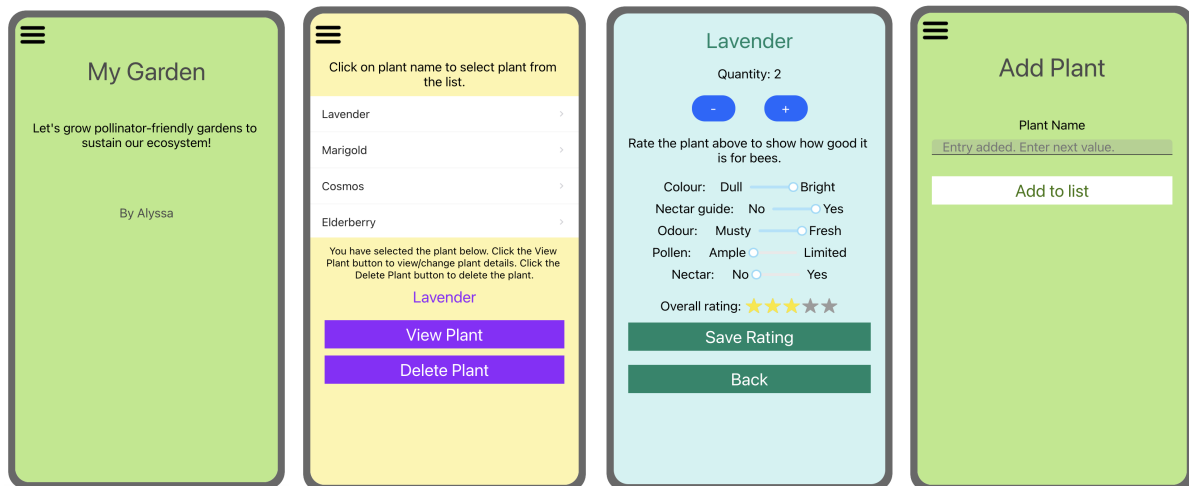
By the end of this program, students will be able to:

- Plan their app design through creating paper prototypes
- Recognize issues related to ethical design of mobile apps
- Apply basic coding concepts to build a mobile app that addresses a social issue
- Communicate their project in a way that is accessible and meaningful to a general audience

## My Garden App

Students will achieve the learning objectives above through building the My Garden App, which aims to encourage users to plant pollinator-friendly gardens to conserve local pollinators.

**Video demo:** <https://youtu.be/loA4PnLrVaM>



## Program schedule

<b>Date &amp; time</b>	<b>Workshop</b>	<b>Description</b>
Oct 2 (Sat) 10:00-11:30 am	Planning & prototyping	Students will plan their app design by creating paper prototypes.
Oct 9 (Sat)	Long weekend break. No workshop.	NA.
Oct 16 (Sat) 10:00-11:30 am	Defining problem statements  Thunkable 1.0	Students will discuss the social impacts of their app and define the problem their app will address.  Students will apply fundamental coding concepts to build the My Garden App using Thunkable.
Oct 23 (Sat) 10:00-11:30 am	Ethical design of mobile apps  Thunkable 2.0	Students will discuss ethical issues related to mobile apps and how these considerations can influence app design.  Students will apply fundamental coding concepts to build the My Garden App using Thunkable.
Oct 30 (Sat) 10:00-11:30 am	Thunkable 3.0	Students will apply fundamental coding concepts to build the My Garden App using Thunkable.
Nov 6 (Sat) 10:00-11:30 am	Recap  Thunkable 4.0	This workshop will include a mid-program recap.  Students will apply fundamental coding concepts to build the My Garden App using Thunkable.
Nov 13 (Sat) 10:00-11:30 am	Thunkable 5.0	Students will apply fundamental coding concepts to build the My Garden App using Thunkable.
Nov 20 (Sat) 10:00-11:30 am	How to present & demo your app	Students will learn important tips and skills on how to present their projects in a way that is accessible and meaningful to a general audience.

# Coding for Social Change

Program overview and requirements (Gr. 7-10; Fall 2021)

Nov 27 (Sat) 10:00-11:30 am	Project wrap-up & Presentation practice	Students will work on wrapping up their projects and practice their presentations before their final presentation the following week.
Dec 4 (Sat) 10:00-11:30 am	Final presentation & Graduation ceremony	Students will present a 3-minute flash talk and app demo. This is followed by a graduation ceremony in which certifications will be presented.

## Additional information

- Our Thinkable workshops will cover basic coding concepts such as variables, functions, conditions, loops, and how to read/write databases. The progress of covering the concepts above will depend on the pace of the class.
- Meeting links will be open at 9:30 am, which is 30 minutes before the start time, for students who wish to test their setup (e.g. is my audio working?).
- While the workshops will focus on the My Garden App, we encourage students to be creative and come up with their own app ideas that address social issues that they care about. Students can join the workshops at 9:30 am, which is 30 minutes before the start time, and/or instructor office hours (date and time TBD) to ask questions and get feedback about their projects.
- Family members and friends are welcomed to join the final presentation and graduation ceremony.

## How to apply

**Date:** Oct 2-Dec 4, 2021 (every Saturday except for Oct 9)

**Time:** 10:00-11:30 am

**Location:** Online via Zoom

**Grade:** 7-10\*

**Cost:** Free

\*If you're not within this grade range but would like to join the program, please email Eva at [sacoord@sfu.ca](mailto:sacoord@sfu.ca).

**Application link:**

<https://coursys.sfu.ca/forms/apsc-coding-for-social-change-program-application-/>

**Early application deadline:** Sept 9, 2021 (Thurs, 11:59 pm PST)

Admission decisions for early applicants will be made by Sept 13, 2021 (Mon, 5:00 pm PST).

**General application deadline:** Sept 19, 2021 (Sun, 11:59 pm PST)

Admission decisions for general applicants will be made by Sept 22, 2021 (Wed, 5:00 pm PST).

Applications will be evaluated to determine admission to the program. An email with more program details and the Zoom link will be sent out by Sept 27, 2021 (Mon, 5:00 pm PST).

## Workshop requirements

### Basic requirements

- Internet access
- Laptop/Desktop computer
- Thunkable account: You can sign up here <https://thunkable.com/#/>
- System requirements:
  - <https://appinventor.mit.edu/explore/content/system-requirements.html>
  - The system requirements for Thunkable are not listed on its website. Since Thunkable is developed by the same research group that developed App Inventor, let's refer to the system requirements of App Inventor.
  - Web browser: Use this link to check your browser version <https://www.whatismybrowser.com/>
- Wireframe templates (see PDF attached) and writing utensils:
  - If you have access to a printer, please remember to print at least two sheets of the wireframe template.
  - Alternatively, you could use two sheets of blank papers to draw your wireframes.
  - Please remember to bring your writing utensils. A pencil and an eraser would be preferred over using a pen (it's less messy if you make mistakes).

### Optional

Mobile device or tablet with the Thunkable Live app installed. To live test certain app features, a mobile device or a tablet with the Thunkable Live app installed is required. The Thunkable Live app is free.

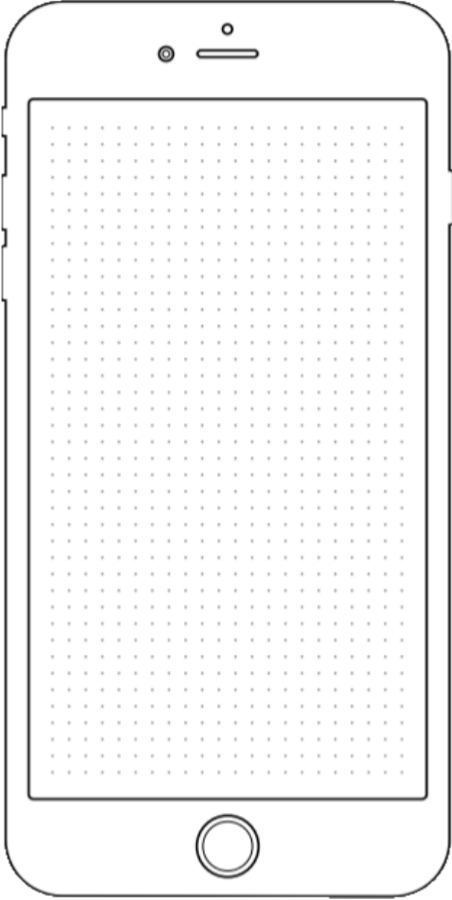
- Play store: [https://play.google.com/store/apps/details?id=com.thunkable.live&hl=en\\_CA&gl=US](https://play.google.com/store/apps/details?id=com.thunkable.live&hl=en_CA&gl=US)
- Apple store: <https://apps.apple.com/us/app/thunkable-live/id1223262700>

# Coding for Social Change

Program overview and requirements (Gr. 7-10; Fall 2021)

Project Name: \_\_\_\_\_ Date: \_\_\_\_\_

Screen Name: \_\_\_\_\_



**Image of the wireframe template provided to students. A PDF copy will be attached with the confirmation email.**

## Virtual Community Guidelines

Welcome to the Coding for Social Change program offered virtually by the SFU Applied Sciences Outreach! We are so excited that you have decided to join us. Our mission is to inspire, encourage, and support youths of all backgrounds to explore the many topics related to science, engineering, and technology through interactive and engaging activities. Before you join us, there are some guidelines we need everyone to follow to maintain the safety of everyone involved. See below for our Virtual Community Guidelines.

**Personal Safety:** We take safety seriously. If harm is disclosed or discussed (harm to self, or harming others) then we will take the appropriate steps to ensure your continued safety and the safety of those around you. Threats about others personal safety will not be tolerated.

**Respect:** Treat those online as you would treat them in-person that is with respect, dignity, and care.

**No Hate Speech or Bullying:** Bullying, discrimination, and harassment of any kind will not be tolerated.

**Communication:** Communication is encouraged in this workshop. Communicate with respect and listen to others when they speak or share ideas, which includes when sharing ideas out loud or via the chat function. Mute your microphone when not speaking and only turn your video on if you feel comfortable to do so.

**Privacy:** Respect the privacy and personal information of those in the shared virtual space by not sharing information that is not your own. Respect your own privacy by not sharing any personal information with those you do not know. Sharing of the Zoom link with those outside of the specific intended group is strictly prohibited.

**Copyright:** There will be no recording of anything that happens in this space, which includes participants and instructors taking pictures, recording parts of the workshop or recording their screen during any part of the workshop.

By joining the Coding for Social Change program, you are considered to be in agreement with the above community guidelines. We will take the appropriate actions if any of the above guidelines are violated. Depending on the situation, this may result in revoking participation in the remaining workshops. Thank you in advance for your commitment to keeping our programs engaging, safe and of course, fun!



## Meet your instructors



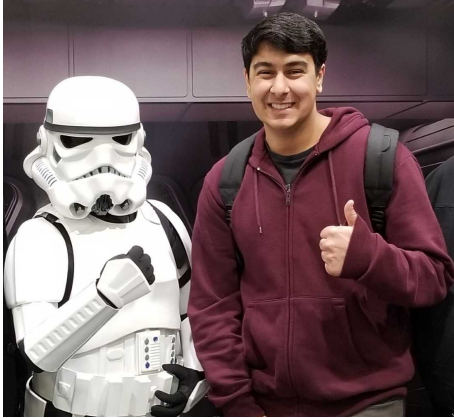
**Alyssa** is a second year Computing Science student at Simon Fraser University. She began programming in high school and has been passionate about coding ever since. At SFU, Alyssa is a peer mentor for the TechConnect program, an Applied Science student ambassador, and a member of her scholarship student committee. In her spare time, Alyssa enjoys many outdoor activities such as kayaking, hiking, and cross country skiing.



**Danny** is a tutor, instructor, and 3rd year Computer Engineering student at SFU. He is passionate about coding and frequently spends time working on personal projects with the goal of honing his own skills while aiming to develop applications that create convenience for others. He has worked as a swimming instructor since 2016 and values creating engaging learning environments for youth. This, coupled with his knowledge as a Computing Science Peer Tutor, and having experienced both the triumphs and tribulations that come with being a student in STEM, he aims to help fellow undergraduates and youth develop crucial skills needed to succeed in computer science. In his spare time, he enjoys watching documentaries and gaming with friends.

# Coding for Social Change

Program overview and requirements (Gr. 7-10; Fall 2021)



**Sunil** is a student and former sports coach. He has been studying Computer Science at SFU since 2019, for a Bachelor of Science degree. During this time he has found enjoyment from making video games through programming and game development software in both his school and free time. From 2017 to 2019, he volunteered with the YMCA and coached youth basketball. In his free time, Sunil enjoys collecting comic books and playing sports such as hockey.

## Contact

If you have questions, please do not hesitate to contact Eva at [sacoord@sfu.ca](mailto:sacoord@sfu.ca).