

2022 LT. GOVERNORS COMPUTING CHALLENGE

CODING FOR GOOD: INSPIRING HEALTH AND WELLNESS FOR ALL

www.ltgovcc.org

Connecticut students in grades 3 through 12 are challenged to identify an issue and propose a computing solution that embraces the theme of Coding For Good - Inspiring Health and Wellness For All. There are three different challenges you can choose from:

- The Concept Challenge
- The Prototype Challenge
- The Development Challenge

“HOW TO” - CONCEPT CHALLENGE

A Guide To A Successful Submission

For The Lt. Governor’s Computing Challenge

TABLE OF CONTENTS

[STEP 1: SELECTING A CHALLENGE](#)

[STEP 2: IDENTIFYING A PROBLEM](#)

[STEP 3: BRAINSTORMING](#)

[STEP 4: IDENTIFYING A COMPUTING SOLUTION](#)

[STEP 5: CREATING AUDIO-VISUAL | VIDEO | ANIMATION](#)

[STEP 6: PREPARING & SUBMITTING YOUR WORK](#)

[STEP 7: EVALUATING THE COMPUTER SOLUTION](#)



Have questions? Get them answered during the [Computing Challenge Office Hours](#).

STEP 1: SELECTING A CHALLENGE

1. Organize a team up to 5 students or decide to work independently
2. Determine which challenge you want to enter.
3. Not sure which challenge? Use these tools to help you decide:
 - [Overview of the Challenges](#)
 - [Flowchart Infographic](#)
 - [Detailed Explanation of Each Challenge](#)
4. **If you decide the Prototype or Development Challenge is the right challenge for your team, go to the [Resource Page](#) to access the “How To” Guide for the Prototype and Development Challenge.**
5. If you decide to join the Concept Challenge, keep reading.

STEP 2: IDENTIFYING A PROBLEM

1. Consider the Challenge theme “*Coding for Good: Inspiring Health & Wellness For All*”
2. Discuss what it means to Inspire Health & Wellness for All.
3. Identify a societal problem that your team would like to address in this challenge.
4. To help with this, ask yourself:
 - a. What area of health and wellness do I find interesting? [physical, mental, social, emotional]
 - b. What group(s) of people need(s) to improve health and wellness?
 - c. What keeps people from getting or staying healthy?
 - d. What do I want to change in my school, town, state or the world?
5. Brainstorm ideas to identify a problem your team wants to solve.

STEP 3: BRAINSTORMING

Brainstorming is an effective process to generate ideas. Use brainstorming sessions to identify a societal problem your team wants to address in this challenge and to identify a computing solution to solve this problem.

1. View these resources to understand the power and the process of brainstorming.
 - [Why Brainstorm?](#)
 - [A Better Way to Brainstorm: How to Get Students to Generate Original Ideas](#)
 - [4 Ways to Improve your Brainstorming](#)
 - [Six Creative Ways To Brainstorm Ideas](#)
 - [10 Effective Brainstorming Techniques](#)
2. Use these tools to track and guide your brainstorming sessions.
 - Google [Docs](#) or [Jamboard](#)
 - [Mind Meister](#)
 - [Canva Mind Map](#)
 - [FigJam](#)
 - [Padlet](#)
3. View additional guidance and resources from our [archived webinars](#).



Have questions? Get them answered during the [Computing Challenge Office Hours](#).

STEP 4: IDENTIFYING A COMPUTING SOLUTION

1. With a problem clearly identified, brainstorm possible computing solutions.
2. To help with this, ask yourself:
 - a. What would be the best tool to solve this problem? [mobile app, website, wearable, video game...]
 - b. What features or functions will help solve the problem?
 - c. Will the user interact with the computing solution?
 - d. How can I make an enjoyable experience for the users of my computing solution?
3. Research your solution to broaden and enhance your ideas.
4. Additional Tip: Use [Apple's App Design Journal](#) to help guide the ideation process.

STEP 5: CREATING AUDIO-VISUAL | VIDEO | ANIMATION

1. The Concept Challenge requires an audio-visual to be submitted. Below are some online tools you can use to create your audio-visual.
 - [Animaker](#): make animated videos online
 - [Animoto](#): make videos with still images and text
 - [PowToon](#): make animated videos online
 - [Loom](#): record screen activity ([Loom Tutorial](#))
 - [Screencastify](#): record screen activity ([Screencastify Tutorial 1](#)) ([Screencastify Tutorial 2](#))
2. Keep in mind copyright laws and be sure to create original concepts. If you use images from the Internet, they should be Creative Commons images so you know the images are approved for sharing. Here are some sources you could use to access images that are okay to use for this purpose:
 - [Wikimedia Commons:Images](#): Download the image, click the “show me how” link to cite the image.
 - [Google Images Advanced Search](#): Select “Creative Commons licenses” under “usage rights” dropdown. Click the blue Advanced Search button and then type in your search terms.
3. Upload your audio-visual to YouTube or Google Drive.

STEP 6: PREPARING & SUBMITTING YOUR WORK

1. **Use** the document below to help plan and complete the team profile.
 - Concept Challenge Template ([docx](#) or [Google doc](#))
2. Your team will need to complete the [Google Form](#) for your submission.
3. The form requires you to submit a link to your video, so be sure it has been uploaded to YouTube or Google Drive.

STEP 7: EVALUATING THE COMPUTER SOLUTION

1. Between May 2nd - May 20th, your submission will be evaluated by educators and industry professionals.
2. Review the [Concept Rubric](#) to learn more about how your computing solution will be evaluated.



Have questions? Get them answered during the [Computing Challenge Office Hours](#).

2022 LT. GOVERNORS COMPUTING CHALLENGE

CODING FOR GOOD: INSPIRING HEALTH AND WELLNESS FOR ALL

www.ltgovcc.org

Connecticut students in grades 3 through 12 are challenged to identify an issue and propose a computing solution that embraces the theme of Coding For Good - Inspiring Health and Wellness For All. There are three different challenges you can choose from:

- The Concept Challenge
- The Prototype Challenge
- The Development Challenge

“HOW TO” - PROTOTYPE & DEVELOPMENT CHALLENGE

*A Guide To A Successful Submission
For The Lt. Governor’s Computing Challenge*

TABLE OF CONTENTS

[STEP 1: SELECTING A CHALLENGE](#)

[STEP 2: REGISTERING YOUR TEAM](#)

[STEP 3: REVIEWING LAUNCHPAD](#)

[STEP 4: IDENTIFYING A PROBLEM](#)

[STEP 5: BRAINSTORMING](#)

[STEP 6: IDENTIFYING A COMPUTING SOLUTION](#)

[STEP 7: MAKING A PLAN](#)

[STEP 8: DEVELOPING THE USER INTERFACE](#)

[STEP 9: CODING YOUR SOLUTION](#)

[STEP 10: CREATING VIDEO | ANIMATION](#)

[STEP 11: BRANDING YOUR SOLUTION](#)

[STEP 12: SUBMITTING YOUR WORK & COMPLETING YOUR LAUNCHPAD PROFILE](#)

[STEP 13: EVALUATING THE COMPUTER SOLUTION](#)



Have questions? Get them answered during the [Computing Challenge Office Hours](#).

STEP 1: SELECTING A CHALLENGE

1. Organize a team up to 5 students or decide to work independently
2. Determine which challenge you want to enter.
3. Not sure which challenge? Use these tools to help you decide:
 - [Overview of the Challenges](#)
 - [Flowchart Infographic](#)
 - [Detailed Explanation of Each Challenge](#)
4. **If you decide the Concept Challenge is the right challenge for your team, go to the [Resource Page](#) to access the “How To” Guide for the Concept Challenge.**
5. If you decide to join the Prototype or Development Challenge, keep reading.

STEP 2: REGISTERING YOUR TEAM

To participate in the Prototype or Development Challenge, your team of 1-5 people will need to register on Launchpad—the submission platform for these challenges.

1. [CLICK HERE](#) to register for the Prototype or Development Challenge
2. Watch the brief video
3. Click NEW USER and sign in with your Google account
4. Complete the fields and click Submit. Please note, you can always change your project name at a later date.

STEP 3: REVIEWING LAUNCHPAD

1. Log into [Launchpad](#)
2. Watch the Submission video to learn how to successfully submit to the challenge
3. Click See Activities
4. Click each of the links below Activities to:
 - View the explanation video
 - Read the instructions
5. When your team is ready, you will complete and submit the various activities



Have questions? Get them answered during the [Computing Challenge Office Hours](#).

STEP 4: IDENTIFYING A PROBLEM

1. Consider the Challenge theme “*Coding for Good: Inspiring Health & Wellness For All*”
2. Discuss what it means to Inspire Health & Wellness for All.
3. Identify a societal problem that your team would like to address in this challenge.
4. To help with this, ask yourself:
 - a. What area of health and wellness do I find interesting? [physical, mental, social, emotional]
 - b. What group(s) of people need(s) to improve health and wellness?
 - c. What keeps people from getting or staying healthy?
 - d. What do I want to change in my school, town, state or the world?
5. Brainstorm ideas to identify a problem your team wants to solve.

STEP 5: BRAINSTORMING

Brainstorming is an effective process to generate ideas. Use brainstorming sessions to identify a societal problem your team wants to address in this challenge and to identify a computing solution to solve this problem.

1. View these resources to understand the power and the process of brainstorming.
 - [Why Brainstorm?](#)
 - [A Better Way to Brainstorm: How to Get Students to Generate Original Ideas](#)
 - [4 Ways to Improve your Brainstorming](#)
 - [Six Creative Ways To Brainstorm Ideas](#)
 - [10 Effective Brainstorming Techniques](#)
2. Use these tools to track and guide your brainstorming sessions.
 - Google [Docs](#) or [Jamboard](#)
 - [Mind Meister](#)
 - [Canva Mind Map](#)
 - [FigJam](#)
 - [Padlet](#)
3. View additional guidance and resources from our [archived webinars](#).

STEP 6: IDENTIFYING A COMPUTING SOLUTION

1. With a problem clearly identified, brainstorm possible computing solutions.
2. To help with this, ask yourself:
 - a. What would be the best tool to solve this problem? [mobile app, website, wearable, video game...]
 - b. What features or functions will help solve the problem?
 - c. Will the user interact with the computing solution?
 - d. How can I make an enjoyable experience for the users of my computing solution?
3. Research your solution to broaden and enhance your ideas.
4. Additional Tip: Use [Apple’s App Design Journal](#) to help guide the ideation process.



Have questions? Get them answered during the [Computing Challenge Office Hours](#).

STEP 7: MAKING A PLAN

1. Before you jump into designing or coding on the computer, PLAN. This will save time in the future.
2. Determine the best method for planning out your computing solution. [storyboard, flowchart, wireframe]
3. Check out these resources to help choose the best tool for your plan.
 - Storyboard: [What is a Storyboard Video](#)
 - [Storyboard That](#)
 - [Padlet](#)
 - [Google Slides](#)
 - [Basic App Template](#)
 - Flowchart: [What is a Flowchart Video](#)
 - [Lucid Chart](#)
 - [FigJam](#)
 - Wireframe: What is a Wireframe Video [coming soon]
 - [Mock Flow](#)
 - [Wireframe Tutorial](#)
4. Using one of these tools or another, sketch or mock up the User Interface (what the computing solution will look like to the user).
5. Further develop your plan to include how the computing solution will work or function.

STEP 8: DEVELOPING THE USER INTERFACE

1. In the previous step you sketched or mocked up the User Interface (UI). The UI is what the user sees and interacts with.
2. There are some rules you should follow when developing the User Interface. Below is a quick list of basic rules to keep in mind when developing the UI
 - Identify your user before getting started.
 - Keep the UI simple.
 - Create consistent-looking elements (all buttons should look the same, text should match, etc...)
 - Choose colors carefully ensuring that elements and text are easy to see.
 - Determine location of elements. Consider where the user may expect particular elements to be located.
 - The interface should be easy to use without instructions.
3. Below are some resources to help you better understand User Interface purpose and design
 - [User Interface Design Overview](#)
 - [User Interface Elements List](#)
 - [Figma UI Design Tutorial](#)



Have questions? Get them answered during the [Computing Challenge Office Hours](#).

STEP 9: CODING YOUR SOLUTION

1. This challenge is language-neutral, so you can use any programming language, block-based or text-based.
2. Below is a small selection of online resources that offer free coding instruction. You may want to step through a course or some of the lessons to learn a programming language.
 - [Grok Academy](#)
 - [Code.org](#)
 - [Khan Academy](#)
 - [Code Academy](#)
 - [CodeHS](#)
3. Below is a selection of online programming tools that you can use to build your program. Many of these offer tutorials you can use to learn as you develop.
 - [Vidcode](#)
 - [Pencil Code](#)
 - [Bitsbox](#)
 - [Scratch](#)
 - [App Inventor](#)
 - [App Lab](#)
 - [Code HS](#)
 - [Makecode](#)
 - [Swift Playgrounds](#)
 - [Repl.it](#)
4. As you code your program, you will need to constantly test and evaluate the functionality and make changes and improvements based on these tests. This is a critical part of the design process.
5. Keep in mind that the Prototype Challenge only requires one feature to be programmed and functioning while the Development Challenge requires a fully functioning program.

STEP 10: CREATING VIDEO | ANIMATION

1. Both challenges require a video to be submitted. While the requirements differ, below are some online tools you can use to create your video.
 - [Animaker](#): make animated videos online
 - [Animoto](#): make videos with still images and text
 - [PowToon](#): make animated videos online
 - [Loom](#): record screen activity
 - [Loom Tutorial](#)
 - [Screencastify](#): record screen activity ([Screencastify Tutorial 1](#)) ([Screencastify Tutorial 2](#))
2. Keep in mind copyright laws and be sure to create original concepts. If you use images from the Internet, they should be Creative Commons images so you know the images are approved for sharing. Here are some sources you could use to access images that are okay to use for this purpose:
 - [Wikimedia Commons:Images](#): Download the image, click the “show me how” link to cite the image.
 - [Google Images Advanced Search](#): Select “Creative Commons licenses” under “usage rights” dropdown. Click the blue Advanced Search button and then type in your search terms.



Have questions? Get them answered during the [Computing Challenge Office Hours](#).

STEP 11: BRANDING YOUR SOLUTION

1. Define your target audience which is the primary group of people you think will use your computing solution.
2. Consider the desired goals of the computing solution.
3. Create visuals that will reach the target audience. Ask yourself, “What colors, fonts, and graphics will appeal to the user?”.
4. Design a logo or mascot that is representative of the concept and color scheme. Simple designs are best.
 - [Logo Design: 5 Key Elements for Reaching Your Target Audience](#)
5. Develop a hashtag using a motto that will appeal to your targeted audience.
 - [5 Tips for Coming Up with a Winning Brand Hashtag](#)
6. Keep in mind copyright laws and be sure to create original concepts. If you use images from the Internet, they should be Creative Commons images so you know the images are approved for sharing. Here are some sources you could use to access images that are okay to use for this purpose:
 - [Wikimedia Commons:Images](#): When you download the image, click the “show me how” link to properly cite the image.
 - [Google Images Advanced Search](#): Select “Creative Commons licenses” under “usage rights” dropdown. Click the blue Advanced Search button and then type in your search terms.

STEP 12: SUBMITTING YOUR WORK & COMPLETING YOUR LAUNCHPAD PROFILE

1. All work will be submitted on [Launchpad](#).
2. **Use** the documents below to help plan and complete the team profile.
 - Prototype Challenge Template ([docx](#) or [Google doc](#))
 - Development Challenge Template ([docx](#) or [Google doc](#))
3. When you have completed an activity and want to submit it to Launchpad, simply log into [Launchpad](#) and select the activity you want to submit.
4. Review the video and written instructions as needed.
5. Click Submit and upload the file, add a brief summary and relevant image.

STEP 13: EVALUATING THE COMPUTER SOLUTION

1. Between May 2nd - May 20th, your submission will be evaluated by educators and industry professionals.
2. Review the following criteria to learn more about how your computing solution will be evaluated.
 - [Prototype Challenge Scoring Criteria](#)
 - [Development Challenge Scoring Criteria](#)



Have questions? Get them answered during the [Computing Challenge Office Hours](#).