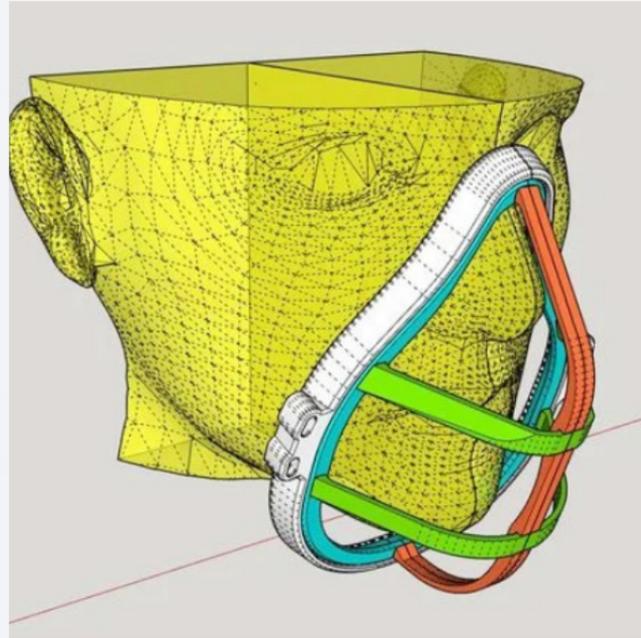


Medical Facemask Design Challenge



Necessity is the mother of invention

Your design could help make a better future

Sometimes necessity of design is inspired by happy times, but sometimes like with what the world is facing now, that necessity is born from tragic circumstances. We have seen COVID-19 spread across the world and quickly overwhelm health services. One of the bigger problems facing health workers and first responders is the limited supply of protective facemasks and face-shields. Often these masks are designed for 'single use', which means they must not be reused, creating tonnes of rubbish in landfill.

Situations like the one the world is now facing can seem overwhelming, and you as an individual can feel like you are powerless to help, however, many people just like you are showing that with creativity and ideas **we all can make a contribution**. In Canada, 13 year old Boy Scout 'Quinn Callander', has helped his country's hospitals by 3D printing facemask 'ear guards', to help protect the ears of healthcare workers. Other groups of people around the world have been helping with materials and designs which are improving the medical facemask design to help make it safer and more efficient.

This is where you can help...

There are two issues that need solving:

Design Challenge Option 1

At present the commonly used medical facemasks are not reusable. They are also not 100% effective at stopping viruses getting through. Face-shields are often required, and these are worn as a separate item.

Your design challenge is to design a medical style facemask that could be used by a design team to produce a certified medical mask that is more efficient and more reliable.

This challenge can be completed using pencil and paper, or by using CAD design tools and 3D printers. The choice of tools, techniques, and materials is up to you. See the design criteria below.

Design Challenge Option 2

In Australia, it is not a common cultural practice, like it is in some countries, to wear medical facemasks in public places during virus seasons. Some medical organisations suggest that wearing facemasks in public would help to stop the spread of viruses like COVID-19 and Influenza.

Your design challenge is to produce a facemask or range of facemasks that would turn wearing a facemask into a public fashion statement, to help encourage wearing of facemasks during virus seasons.

This challenge can be completed using pencil and paper, or by using fabric, sewing machines, embroidery, lasercutting, or screenprinting. The choice of tools, techniques, and materials is up to you. See the design criteria below.

Judging Criteria

Creativity	The judges will be looking for designs which are unique in their solution of the identified issues associated with current facemasks, and designs which illustrate 'thinking outside of the box'.
Functionality	The judges will be looking for designs which address the functional needs required by the particular facemask (Option 1 or Option 2).
Sustainability	The judges will be looking for designs which use materials and processes that fit with contemporary sustainability goals of 'cradle to cradle' design.
Design	The judges will be looking for designs which are aesthetically pleasing and incorporate and utilise the 'elements and principles' of design.
Communication	The judges will be looking for entries where the design and engineering process are well presented, and where the challenges, triumphs, and failures of the design process are well communicated.

Competition Timeline

The competition opens on Monday 18th of May 2020 and **closes on Friday the 18th of September 2020**. Winners will be notified by email, and winning entries will be displayed at the Geelong Tech School and on the DATTA Victoria Website during Geelong Innovation Week (8th - 14th of November 2020).

All designs will remain the property of the entrant, however, a media consent form must accompany each entry allowing all entries to be included in promotions and publications of the Geelong Tech School and DATTA Victoria.

Competition Categories

Entries can be in one of two categories:

individual student entries , where the student engages in the design challenge as an individual extra-curricular activity.	See the 'How to submit your entry' section at the end of this document, and register for updates here: Click here to register your email
A school class entry , where individual students engaged in the design challenge with their class under direction of the teacher. Teacher - Class Entry Link	Class teachers should complete the short survey via this link which will allow for the arrangement of a secure online folder for your class entries. You should then follow the instructions in the 'How to submit your entry' section at the end of this document. Please repeat this process for each separate class.

Prizes and Awards

Awards for each design option will be presented to winning entries as determined by the competition judges. Competition sponsors are currently being sought from industry.

Prize details and a list of judges will be forwarded to schools and entrants once these have been confirmed.

Design Challenge Consent Form

A signed copy of this consent form must be attached to each design entry for the entry to be considered valid.

Images & Testimonials Individual Consent

I grant the **DATTA Victoria** and the **Geelong Tech School** hosted by The Gordon my permission to use, copyright and publish all of the design photographs and/or materials supplied as part of my entry into the COVID-19 Design Challenge for the purpose of promoting, marketing or publicising DATTA Victoria and the Geelong Tech School, typically in the form of social media and website publications. I also grant DATTA Victoria and The Gordon my permission to use and publish my name and all testimonials given by me for the purpose of promoting, marketing or publicising DATTA Victoria and the Geelong Tech School. I waive the right to inspect or approve versions of the photographs and/or footage and/or testimonials used for publication by DATTA Victoria and The Gordon.

I release DATTA Victoria and The Gordon (and its officers, employees, agents, students and contractors) from any liability for any loss, injury or damage suffered in relation to the use of my photographs, footage, name and/or testimonials, including but not limited to any claims of defamation, invasion of privacy or infringement of copyright.

I have read this document and understand and agree to its content.

Executed as a deed by the person named below or his/her parent/guardian if under 18 years of age:

Student Name: **Signature:**

Date:

Parent/Guardian: **Signature:**

Date:

Privacy Statement: Your personal information may be collected and used for the purposes described above. Your personal information will only be used or disclosed for these purposes in accordance with DATTA Victoria's and The Gordon's Information Privacy Policy or where otherwise permitted by law.

** Please note: You may need to install Adobe PDF Reader to fill in this form. A free download can be accessed here: <https://acrobat.adobe.com/au/en/acrobat/pdf-reader.html>

Design Challenge Entry Form

Your First Name

Your Surname

Your School

Your eMail Address

Your Year Level

Primary School

Yr 7 / Yr 8

Yr 9 / Yr 10

Yr 11 / Yr 12

Which Design Challenge option are you entering?

Design Challenge Option 1 - Medical Facemask for Health Workers

Design Challenge Option 2 - Street-wear Facemask for public use

If you are entering as a team, place the names of your team members here:

Explain why your facemask design idea is special, unique, and better than the ones that currently exist?

COVID-19

Innovation Week

Explain how your facemask functions. What makes it easier to use, and/or what makes it more likely to be used by those who need to wear it?

How is your design environmentally friendly? How can it be 'reused' or 'recycled'?

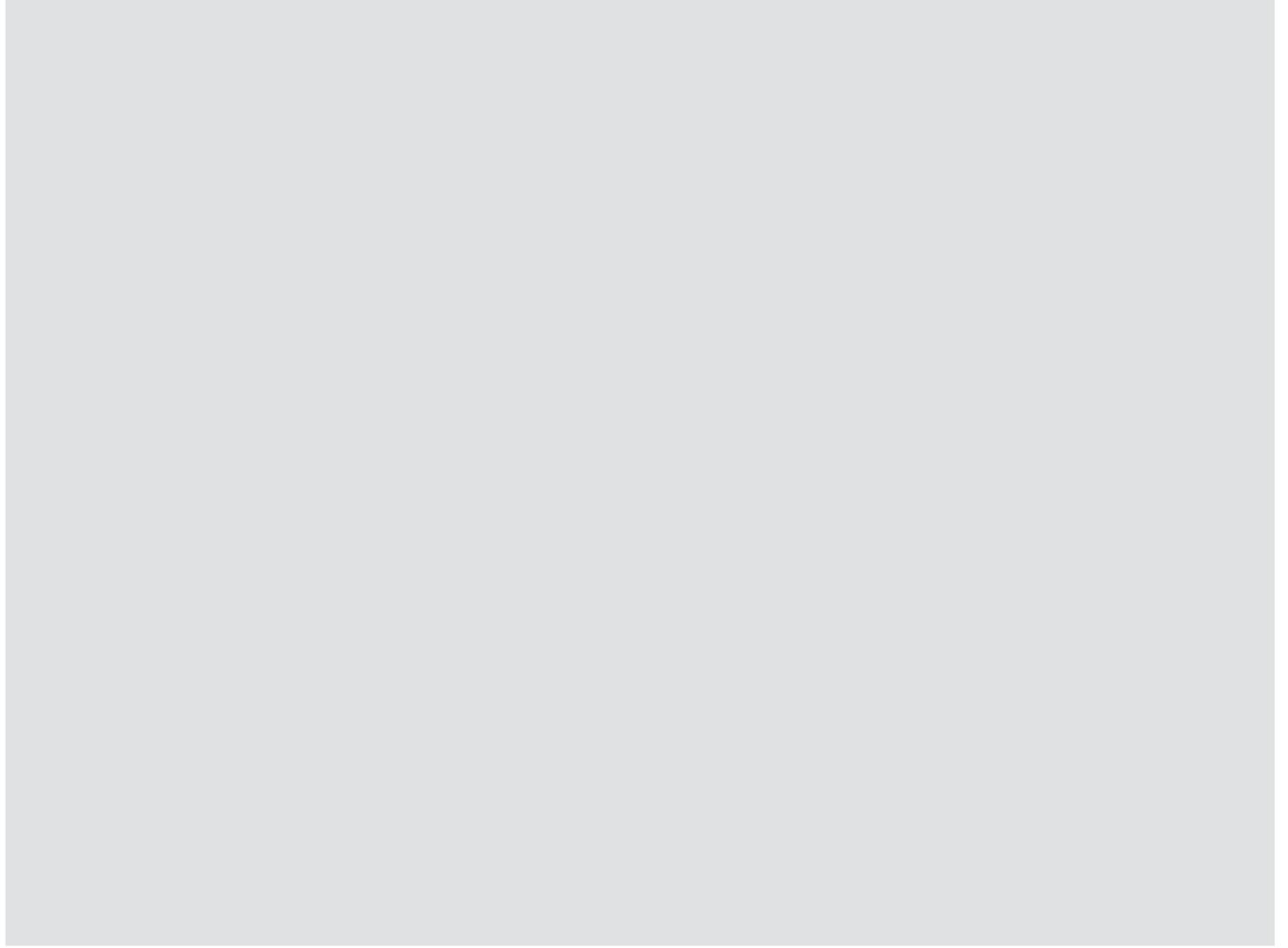
What steps did you take to ensure your design was attractive (aesthetically pleasing)? What Design Elements and Principles did you utilise?

What were some of the design challenges that you faced when creating your design? Did you have failures, and if so, how did you overcome them?

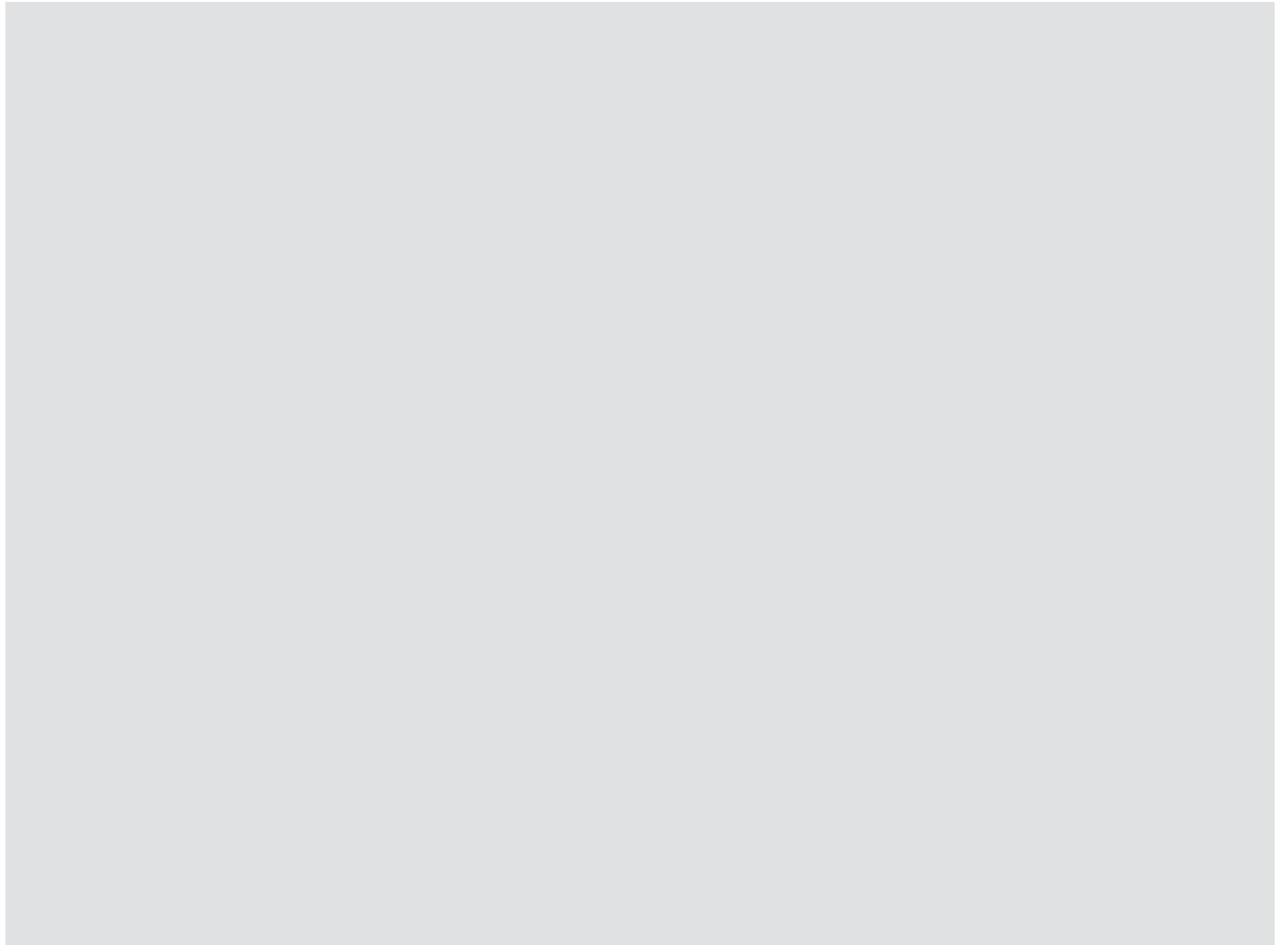
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Innovation Week

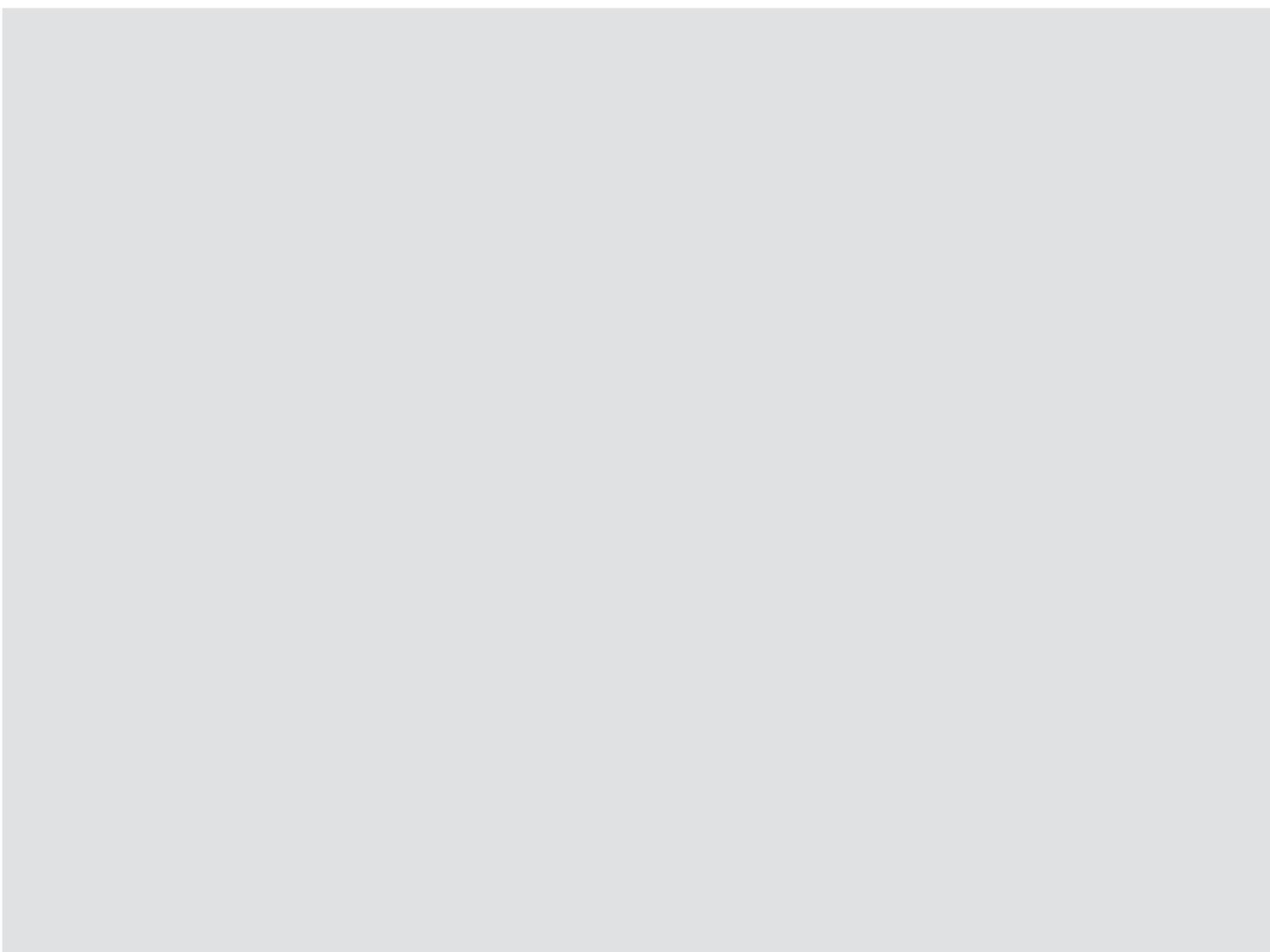
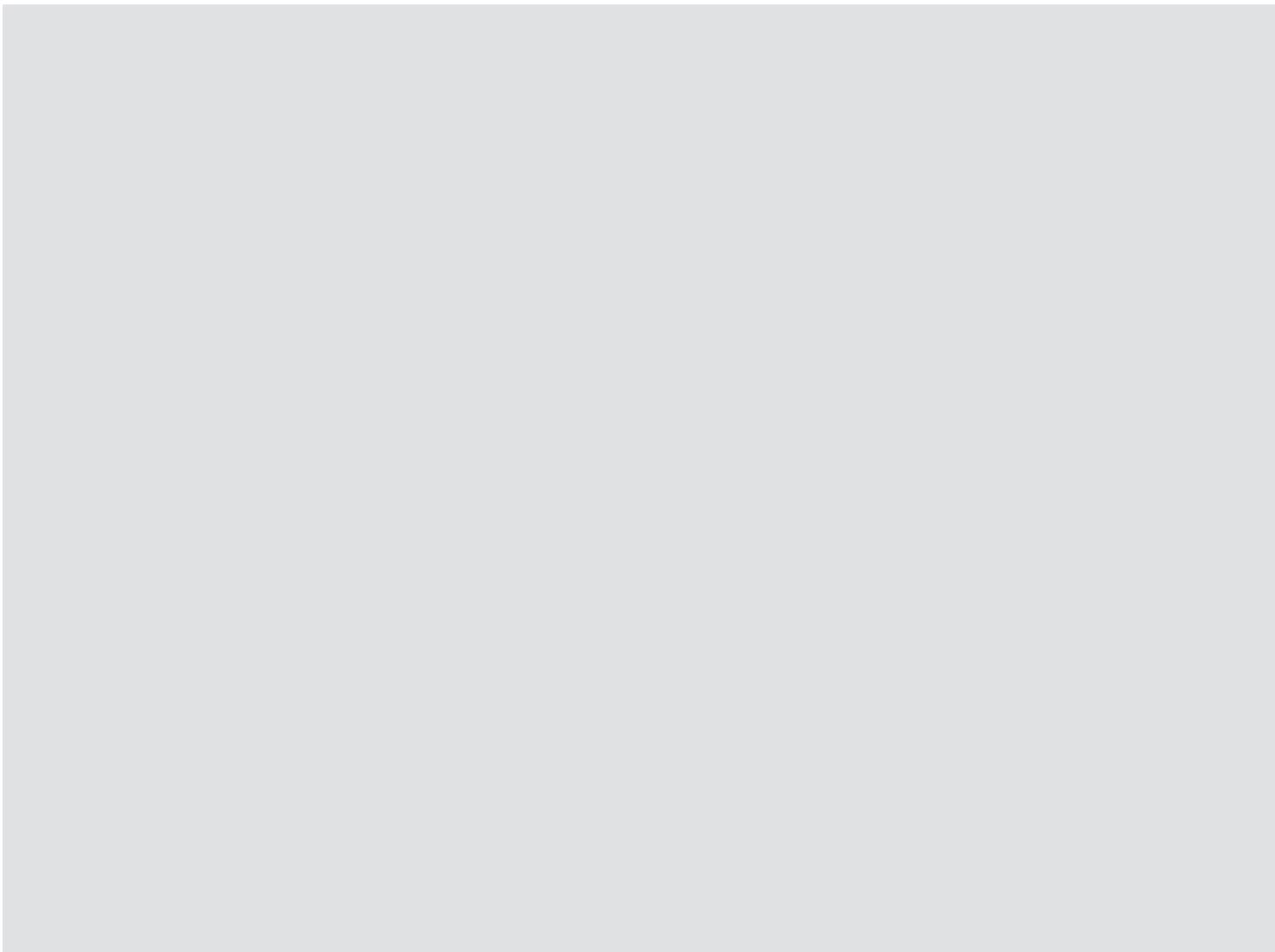
Please attach your design drawings here:

A large, empty gray rectangular area intended for users to upload their design drawings.

Please attach photos of any prototypes you have made here: (*optional)

A large, empty gray rectangular area intended for users to upload photos of their prototypes.

Please attach any additional images and/or **consent form** here:



How to submit your entry

Individual Entries

Download a copy of this form. When you are ready to submit your design entry, fill out all sections of this entry form including the media consent form. The media consent form can either be filled in with an electronic signature or printed off, signed, scanned and then reattached to this form. The form has a built-in step-by-step guide for how to create a digital signature which pops up when you click on the signature field.

Photographs of your design drawings and prototypes can be loaded directly into this form by clicking on any of the image fields, and there is a section where additional images can be uploaded if needed. If you have printed off the Consent Form and rescanned it, it can be attached to this form by uploading it to the 'Additional Attachments' section.

Ensure that you have filled out all of the fields in this form to the best of your ability, as the judges will be using the information here to select the best entries (remember to save as you go).

Once you have completed the entire form first click on the 'Save' button below. This will allow you to save a copy of this form under your own name.

After you have saved the form and you are ready to submit, click on the 'Submit' button. This will create an email with this form as an attachment and be sent as an email by the default email program on your computer.

If the 'Submit' button doesn't work for you, please attach this form along with images etc. and email it to vtn@oberonhs.vic.edu.au using the subject 'COVID-19 Design Challenge'.

Save a Copy

Submit

School Entries

For school entries, the class teacher should help all participating students to secure all of their design work into appropriate folders ready for upload to the entry form. The class teacher should then guide students through the completion of the entry form as outlined above.

Media consent forms can either be completed within the form digitally, or printed off, signed, and then scanned back to digital format.

Once all of the entry forms and media consent forms have been completed and collated into a central location, the class teacher can transfer the complete collection of entries to the secure online folder that has been supplied to them via the initial registration (if you did not receive this link, please call the number below). This can be done by simply browsing to the link provided, and dragging the relevant folder across.

Any further enquires regarding this process can be directed to Seven Vinton STEM Specialist at Oberon High School. PH: 03 52434444