California Science and Engineering Fair 2021
Project Presentation Requirements

You may prepare your Project Presentation for Virtual CSEF 2021 using any software tools that you desire, but the final document submitted for display to the judges and the public must satisfy the following requirements. These requirements will ensure that all text of your Project Presentation is readable by your judges when a single page fills their screen. You are preparing your presentation for them to read, not you. Your judges will not "blow up" portions of your page if they cannot read your text because it is too small.

Format Requirements

1. The Project Presentation must be a single PDF document limited to **no more than 12 pages**.
2. You must use a page size no larger than standard 8½"x11".
3. The PDF document must open with default magnification "Fit Page" so that **the entire page is visible at the same time**. Create each page in landscape mode (*i.e.*, it is wider than it is tall).
4. Your PDF document must not contain animations or active hyperlinks. The document must not have instructions to open in "full screen mode." Without that mode, page transitions, embedded videos, and animations are disabled, so do not include any of them in your Presentation.
5. The page background color must be light (not necessarily white) to enhance readability.
6. Text color must be predominantly dark (not necessarily black) to enhance readability.
7. All text must be easily readable when viewing the entire page at once. The smallest allowable font size for body text is 14 point, with 18 point recommended. *Exception:* You may use a smaller font size, down to 10 point, for figure captions or photo credits.
8. All Project Presentation elements must conform to the fair's standard Display Regulations, as they would have to conform if placed on a physical poster for display to judges and the public.
9. You will select one template from the following three pages. In that template, each of the sections named is required, must start on its own page, and must be in the order provided. Recommended section titles are provided, but alternate titles may be used. Each section (except the first and last) may extend beyond one page as long as the total number of pages does not exceed 12.

Format Recommendations:

1. Do not use unusual fonts or colors to "stand out from the crowd" or to be entertaining. We recommend that you use a standard font such as Arial, Calibri, Helvetica or Century Gothic.
2. All section titles should adopt a common style and size. Similarly, all headings within sections should adopt a common style and size, and all body text should adopt a common style and size. The size of section titles should be greater than that of headings, which in turn should be greater than that of body text. There is no recommendation for the relation between styles of title, heading, and body text.
3. Avoid long expository paragraphs. State your points succinctly.
4. Use bulleted lists to set out individual points of interest. Use numbered lists when that numbering is important, *e.g.*, instructions to follow in order, or items needing a reference anchor for citation elsewhere in your Presentation.

Project Presentation Templates

Choose one of the following templates to create your presentation. Do not include additional information not specified in that template. If this project builds on a previous year's project (*i.e.*, it is a "continuation project"), include a brief description of previous work and when performed. Only data collected during this year's research may be presented, unless otherwise directed in the instructions below. You may include visual elements (graphs, drawings, and photographs) where they explain or illustrate your work and can be contained within the overall page limits. Recommended section titles are provided, but alternate titles may be used.

Project Presentation Template: **Science Project**

1. **Project Title / Summary**
   - This section cannot exceed one page and does not require its own title. This page must include:
     - Project Title
     - Student Name(s)
     - A Project Summary limited to no more than 150 words.
   - You may include photographs and drawings relevant to your project on this page, but no detailed or explanatory text belonging on subsequent pages.

2. **Introduction**
   - What is your research question?
   - What were you trying to find out? Include a description of your purpose, your research question, and/or your hypothesis.
   - Explain what is known or has already been done in your research area. Include a brief review of relevant literature.
   - If this is a continuation project, a brief summary of your prior research is appropriate here. Be sure to distinguish your previous work from this year's project.

3. **Methods**
   - Explain your methodology and procedures for carrying out your project in detail.
   - Describe your process. What type of data did you collect and how did you collect that data?
   - DO NOT include a list of materials.

4. **Results**
   - What were the results of your project?
   - Include a brief description in your own words of each experiment, as well as every table and figure that illustrates your data.
   - Include relevant statistical analysis of the data.

5. **Discussion**
   - What is your interpretation of these results?
   - What do these results mean? Compare your results with theories, published data, commonly held beliefs, and expected results.
   - Discuss possible errors. Did any questions or problems arise that you were not expecting? How did the data vary between repeated observations of similar events? Did uncontrolled events affect your results? If so, what was their effect and what did you do in response to them?

6. **Conclusions**
   - What conclusions did you reach?
   - What do these results mean in the context of the literature review and other work being done in your research area? How do the results address your research question? Do your results support your hypothesis?
   - What application(s) do you see for your work? Next steps? Further research?

7. **References / Supplemental Information**
   - This section cannot exceed one page.
   - **References:** List published references/documentation you used (*i.e.*, books, journal articles).
   - **Supplemental Information:** To provide more complete information about what you did (*e.g.*, your laboratory notebook with raw data, schematics, code and/or public git repositories), you may include a set of URLs (*but not active hyperlinks*). Judges are not required to review such supplemental material, so do not bury anything there that you need your judges to see.

Project Presentation Template: **Engineering Project**

1. **Project Title / Summary**
   - This section cannot exceed one page and does not require its own title. This page must include:
     - Project Title
     - Student Name(s)
     - A Project Summary limited to no more than 150 words.
   - You may include photographs and drawings relevant to your project on this page, but no detailed or explanatory text belonging on subsequent pages.

2. **Introduction**
   - What is your engineering problem and goal?
   - What problem were you trying to solve? Include a description of your engineering goal.
   - Explain what is known or has already been done to solve this problem, including work on which you may build. You may include a brief review of relevant literature.
   - If this is a continuation project, a brief summary of your prior work is appropriate here. Be sure to distinguish your previous work from this year's project.

3. **Methods**
   - Explain your methods and procedures for building your design.
   - What did you do? How did you design and produce your prototype? If there is a physical prototype, you may want to include pictures or designs of the prototype.
   - If you tested the prototype, what were your testing procedures? What data did you collect and how did you collect that data?
   - DO NOT include a list of materials.

4. **Results**
   - What were the results of your project?
   - How did your prototype meet your engineering goal?
   - If you tested the prototype, provide a summary of testing data tables and figures that illustrate your results.
   - Include relevant statistical analysis of the data.

5. **Discussion**
   - What is your interpretation of these results?
   - What do these results mean? You may compare your results with theories, published data, commonly held beliefs, and/or expected results.
   - Did any questions or problems arise that you were not expecting? Did uncontrolled events cause these problems? How did you address your unexpected issues?
   - How is your prototype an improvement or advancement over what is currently available?

6. **Conclusions**
   - What conclusions did you reach?
   - Did your project turn out as you expected?
   - What application(s) do you see for your work? Next steps? Further research?

7. **References / Supplemental Information**
   - This section cannot exceed one page.
   - **References:** List published references/documentation you used (*i.e.*, books, journal articles).
   - **Supplemental Information:** To provide more complete information about what you did (*e.g.*, your laboratory notebook with raw data, schematics, code and/or public git repositories), you may include a set of URLs (*but not active hyperlinks*). Judges are not required to review such supplemental material, so do not bury anything there that you need your judges to see.

Project Presentation Template: **Mathematics / Computer Science**

1. **Project Title / Summary**
   - This section cannot exceed one page and does not require its own title. This page must include:
     - Project Title
     - Student Name(s)
     - A Project Summary limited to no more than 150 words.
   - You may include photographs and drawings relevant to your project on this page, but no detailed or explanatory text belonging on subsequent pages.

2. **Introduction**
   - What is your research question?
   - Explain what is known or has already been done in your research area. Include a brief review of relevant literature.
   - If this is a continuation project, a brief summary of your prior work is appropriate here. Be sure to distinguish your previous work from this year's project.

3. **Framework**
   - Introduce the concepts and notation needed to specify your research question, methods, and results precisely.
   - Define relevant terms, and explain prior/background results. (You can present novel concepts developed as part of your project either here or in Section 4, as appropriate.)

4. **Findings**
   - Present your findings and supporting arguments.
   - What did you discover and/or prove? Describe your result(s) in detail. If possible, provide both formal and intuitive/verbal explanations of each major finding.
   - Describe your methods in general terms. Then:
     - Present rigorous proofs of the theory results – or, if the arguments are long, give sketches of the proofs that explain the main ideas.
     - For numerical/statistical results, include tables and figures that illustrate your data. Include relevant statistical analysis. Were any of your results statistically significant? How do you know this?

5. **Conclusions**
   - What is your assessment of your findings?
   - How do the results address your research question? How has your work advanced our understanding relative to what was already known?
   - Discuss possible limitations. Did any questions or problems arise that you were not expecting? What challenges do you foresee in extending your results further?
   - What application(s), if any, do you see for your work? Next steps? Further research?

6. **References / Supplemental Information**
   - This section cannot exceed one page.
   - **References:** List published references/documentation you used (*i.e.*, books, journal articles).
   - **Supplemental Information:** To provide more complete information about what you did (*e.g.*, your laboratory notebook with raw data, schematics, code and/or public git repositories), you may include a set of URLs (*but not active hyperlinks*). Judges are not required to review such supplemental material, so do not bury anything there that you need your judges to see.