Solution Challenge

<> Google Developer Student Clubs

Info Session Presentation
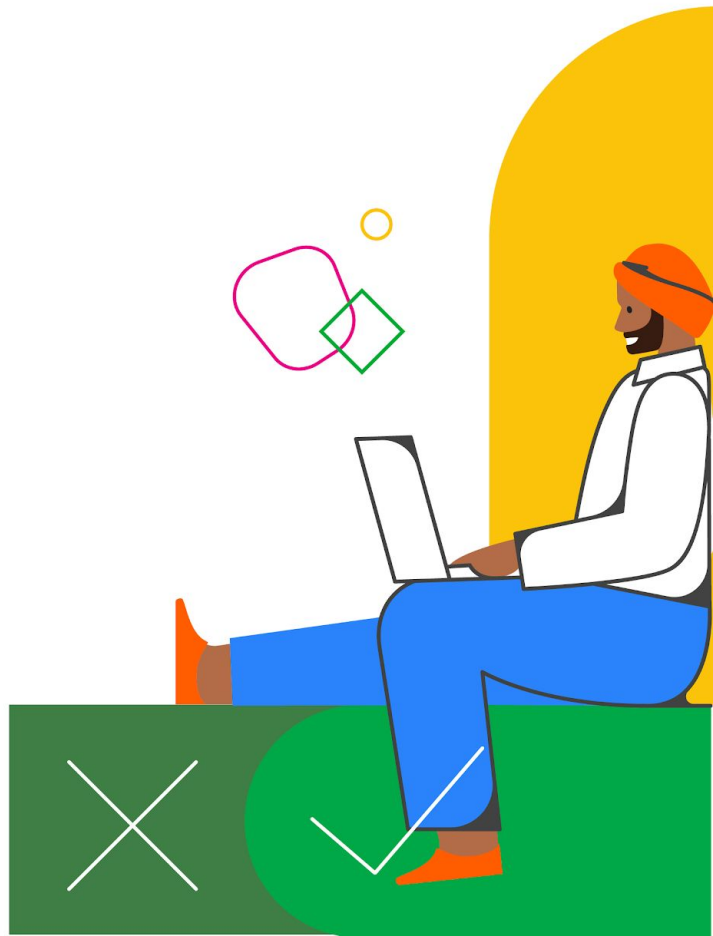
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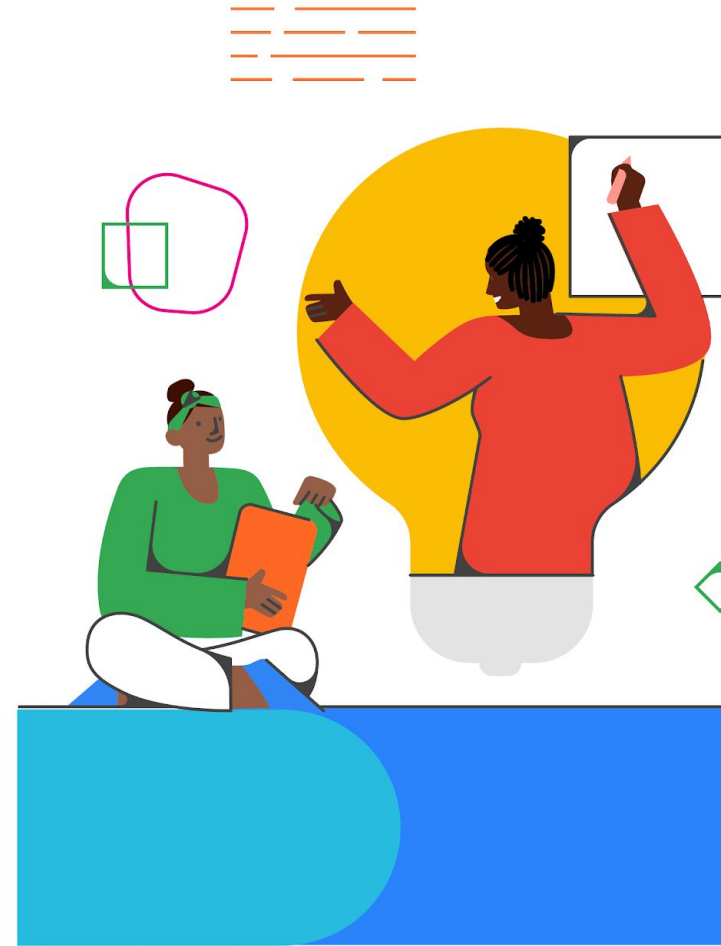
# The Google Developer Student Clubs 2022 Solution Challenge mission is to solve for one of the United Nations' 17 Sustainable Development Goals using Google technology.

Created by the United Nations in 2015 to be achieved by 2030, the 17 Sustainable Development Goals (SDGs) agreed upon by all 193 United Nations Member States aim to end poverty, ensure prosperity, and protect the planet.

We invite Leads to join the competition and/or host workshops to help their club members participate.
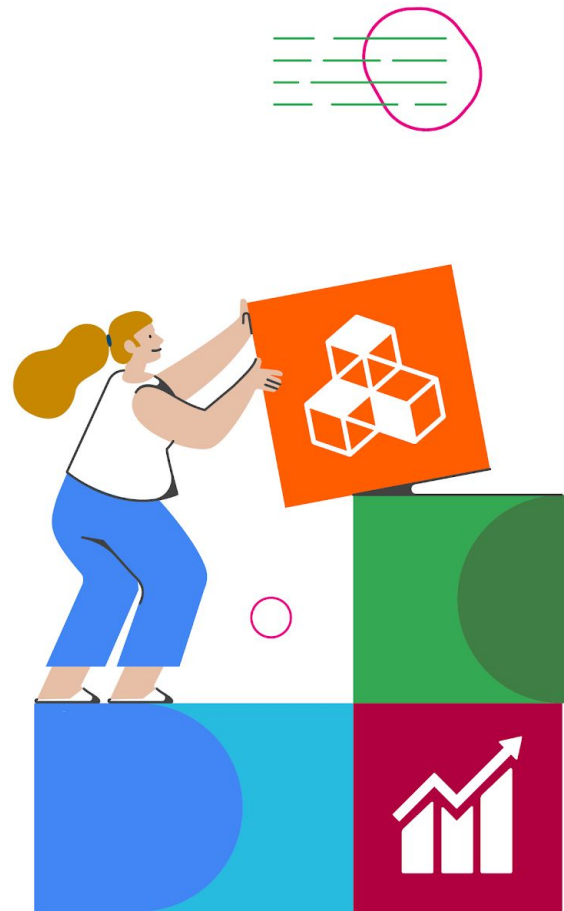
Prizes

All participants receive a Google Developers digital profile badge and an official certificate.

Top 50 teams

Receive customized mentorship from Googlers and experts to take solutions to the next level, a branded T-shirt, and a certificate.

Top 10 finalists

Receive additional mentorship, a swag box, and the opportunity to showcase solutions to Googlers and developers all around the world at Demo Day live on YouTube.

Contest Finalists

In addition to the swag box, each individual from the additional seven recognized teams will receive a Cash Prize of $1,000 per student.

Winnings for each qualifying team will not exceed $4,000.

Top 3 winners

In addition to the swag box, each individual from the top 3 winning teams will receive a Cash Prize of $3,000 and a feature on the Google Developers Blog.

Winnings for each qualifying team will not exceed $12,000.

Judging criteria

A panel of judges from Google will use the following criteria to evaluate and score all submissions.

IMPACT - 60 POINTS

1. Does the entry establish a clear challenge focused on one or more of the United Nations 17 Sustainable Development Goals? Is it explained in a clear manner with specific Sustainable Development Goal targets they are looking to solve for? **[10]**

2. How effectively does the solution address the challenge identified by the team? **[20]**

3. Is there evidence of a next step? Does the team display a plan for future extension if they were to continue? **[10]**

4. Is there evidence that the solution has been thoroughly tested with real users? **[10]**

5. Is there evidence that the solution was iterated upon based on user feedback? **[10]**

TECHNOLOGY - 40 POINTS

1. Does the solution implement all the technical components needed to solve the challenge? **[10]**

2. Has the team clearly explained what Google technology they used, why and included guidance on how to run their code? **[10]**

3. Does the video demonstration show the working solution and how a user will interact with the solution? Does the demonstration highlight how the Google technologies are implemented and also mention the value the technology provides the users? **[10]**

4. Has the team made effective product and technical decisions for their solution? **[10]**

2022 Timeline
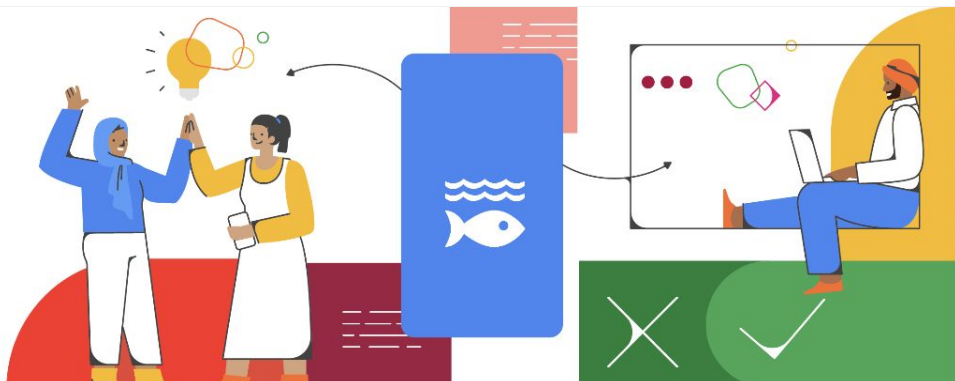
Getting Started

- ❏ **Step 1:** Join a Google Developer Student Club
- ❏ **Step 2:** Register for the 2022 Solution Challenge by submitting this form.
- ❏ **Step 3:** Form a team
- ❏ **Step 4:** Select a United Nations Sustainable Development Goal

Design & Build

- ❏ **Step 5:** Identify a Solution
- ❏ **Step 6:** Learn & build
    - ❏ Design the front-end interface
    - ❏ Design the back-end technology
- ❏ **Step 7:** Test your solution
- ❏ **Step 8:** Iterate

Submissions & Judging

- ❏ **Step 9:** Record a demo video and submit by March 31st, 2022
- ❏ **Step 10:** Top 50 solutions announced (mid-April)
- ❏ **Step 11:** Top 50 mentoring (May)
- ❏ **Step 12:** Top 10 finalists announced (June)
- ❏ **Step 13:** Top 3 winners announced live on YouTube (July)
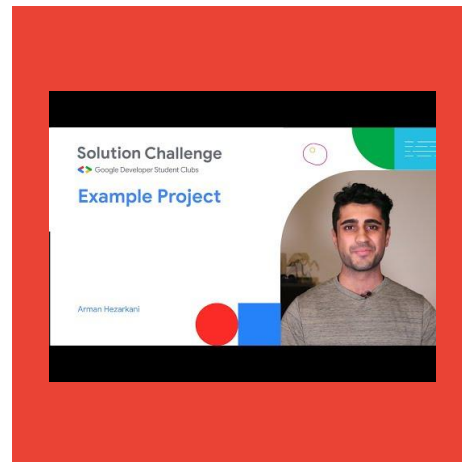- ❏ **Step 14:** Celebrate all the 2022 Solution Challenge participants!

Overview videos

Watch and/or share these detailed "how to" videos for an overview of how to participate in the Solution Challenge.
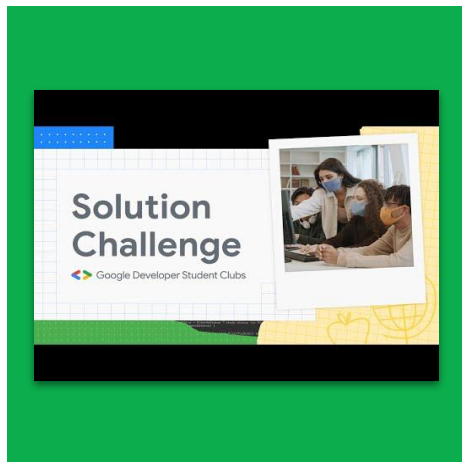
Calling All Student Developers!
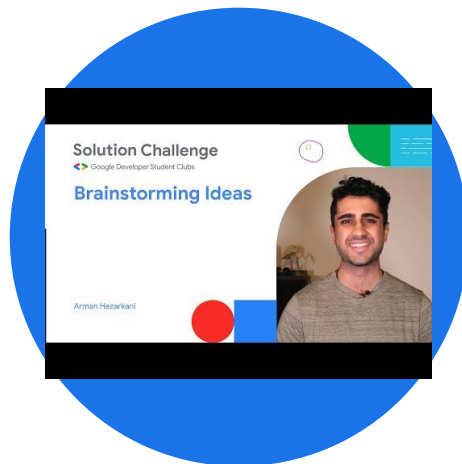
UN 17 Sustainable Development Goals overview and ideas

How to build a project walkthrough

2021 Solution Challenge winners!

Read more about them here.

DementiCare - Singapore
DementiCare is an app equipped with many features to compliment caregiving for Dementia patients such as sending urgent notices, SOS, and creating a patient dashboard.

Helppier - Canada
Helppier's goal is to encourage a new social norm of volunteering in peoples' daily routines in their local neighbourhoods. The app facilitates neighbours helping neighbours through a gamified volunteering system.

QRegister - Turkey
removes the need of physical paper receipts upon transactions and instead encourages the use of QR codes for users to virtually keep track of all their receipts.

E-Owl - Egypt
is a virtual education platform for professors to be able to create virtual meetings, exams, posts and for students to be able to check their grades and assignments online.

I-RISE - Philippines
(I-RISE) is a disaster risk management system that aims to bridge the information gap between local government units, disaster risk management offices, and the island communities of Tubigon, Bohol.

Flow - Cameroon
is a mobile application that helps users easily find clean water sources nearby using Google Maps.

Game Your Fit - Indonesia
keeps track of your movements in real time using your smartphone's movement sensors to promote exercising by gamifying the whole experience.

Eye of God - India
Eye of God" offers an easy-to-use navigation system for visually impaired people, acting as their "virtual-cane" to help them navigate to their destination all by themselves without needing the assistance of other people.

Swaasthy - India
Swaasthy is an app made to uplift user's health. It contains everything from medicine reminder functionality to make an SOS call to nearby ambulances to getting an appointment with a virtual doc.

SimplAR - Germany
SimplAR assists affected people by leveraging the power of Natural Language Processing: the user can take a picture of any text, which is then simplified into an understandable version, following the Plain Language guidelines.

Self-paced codelabs

Follow and/or share the below learning paths and codelabs to improve your skills and project. You can find pathways & codelabs links here.

Android Basics in Kotlin

Learn the basics of building Android apps with the Kotlin programming language.

View Course

Firebase

Learn to build apps with Firebase, Google's mobile platform that helps you quickly develop high-quality apps and grow your business.

View Pathways

Build apps with Flutter

Learn to build beautiful, natively compiled desktop, mobile, and web apps from a single codebase with Flutter.

View Pathway

Program neural networks with TensorFlow

Learn everything you need to know to use TensorFlow to create neural networks and solve common computer-vision problems.

View Pathway

Build Actions for Google Assistant

Learn to build basic and intermediate Actions for Assistant, and how to create advanced features and engage users.
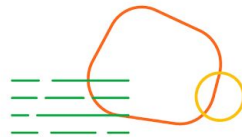
View Pathway

Data engineering and analytics

Learn how to design and build data processing systems.

View Training

Web pathways

Learn how to measure Web Vitals, engage users with push notifications, capture media with WebRTC, and improve identity forms.

View Training

Design Sprint Kit

One popular method you can use to identify your solution is an exercise developed at GV (formerly known as Google Ventures), called [The Design Sprint](#). Usually done as a 5-day exercise, The Design Sprint is a flexible framework for solving problems through designing, prototyping, and testing ideas with users. It allows teams to validate ideas before going through the energy of building a product.

1. **Understand**
   - [User Journey Mapping](#)
   - [User Interviews](#)
   - [Experience Mapping](#)

2. **Define**
   - [Design Principles](#)
   - [Success Metrics & Signals](#)

3. **Sketch**
   - [Crazy 8's](#)

4. **Decide**
   - [Present Solution Sketches](#)

5. **Prototype**
   - [Storyboard](#)
   - [Prototyping Tools](#)

6. **Validate**
   - [Usability Study](#)
   - [Cognitive Walkthrough](#)

Tutorial videos

Watch and/or share the following tutorials to help prepare members from your club for the Solution Challenge.
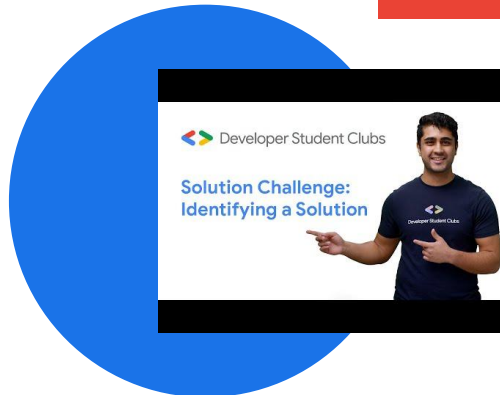
How to request and redeem Google Cloud credits

1. Register for Solution Challenge at goo.gle/solutionchallenge and be sure to mention that you are interested in using Google Cloud for your solution
2. Review your country's eligibility for cloud credits here
3. Form a team with up to four students total
4. In early February, we will send a email with instructions on how to request and redeem your Google Cloud credits
   a. Please make sure only one student from your team fills out that new Google Cloud redemption form (entries from multiple students on the same team will disqualify you from redeeming credits)
   b. Additional Resources
      i. Get access to Cloud training here
      ii. Best practices for using your Google Cloud credits

FAQs

Can my solution solve a problem outside of the scope of the 17 Sustainable Developer Goals?

For Solution Challenge 2022, we **require** your submitted solution to solve for at least one or more of the 17 SDGs. When you have submitted your solution, please review all the 17 SDGs to understand which SDG your solution is focused on and what SDG targets you are looking to solve for.

Can one student or team submit with multiple submissions if they've contributed to both projects?

The Terms and Conditions state "LIMIT ONE (1) ENTRY PER PERSON," so each student can only be a part of one submission.

Can I still participate in the Solution Challenge if there is no Developer Student Club at my university?

Yes, as a student you can still participate as long as you team up with **at least one** student at an existing GDSC university. You must join that GDSC community through the GDSC event platform. We recommend you to then reach out to the GDSC lead for guidance on how to join or form a team with their community.

Given the implications of social distancing, our ability to test with users was impacted -- will the judges consider this?

Our judges will surely be mindful of the limitations that have been added by COVID-19. This includes but is not limited to:
- Ability to meet as a team
- Ability to have users test the solution
- Lack of internet access or proper developer environments due to displacement from your college campus.

To read the full list of frequently asked questions head over to the FAQ page at goo.gle/solutionchallenge.

If you have a question that is not answered below, please reach out to your GDSC Lead.

2021 Solution Challenge winners!

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What participants said in the past

Android

"Developing an Android app from Android Studio is so easy and enjoyable. Android Studio's new features, including Flash Run and ConstraintLayout, help us to build our app faster, easier, and better. We develop our app with the aid of Google's CodeLabs, which are so useful and easy to follow."

Flutter

"Flutter helped us to become more productive. It helped me to build these apps with less code, and less worrying about the basic features. The Hot Reload features saved a lot of my time."

Google Cloud Platform

"GCP allows the apps to be 100% deployable on the cloud. With that vast features available and readily available integration of machine learning online, GCP allows us to be ready for every stage of deployment, ultimately worldwide deployment at multiple regions in multiple countries."

Firebase

"I loved Firebase more because of its easiness and scalability and the approaches that we can do. It's smooth, fast and amazing. It made me say goodbye to SQL and move towards the NOSQL database as it's more robust, easy to use and powerful."

TensorFlow

"TensorFlow is one of the open source tools we use to perform supervised learning for detection. TensorFlow is a really easy tool to use to get started. We chose to use TensorFlow because it is easy to build neural networks using it. It has a comprehensive, flexible ecosystem of tools, libraries and community resources that lets researchers push the state-of-the-art in ML and helps developers to easily build and deploy ML powered applications."
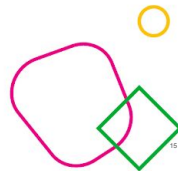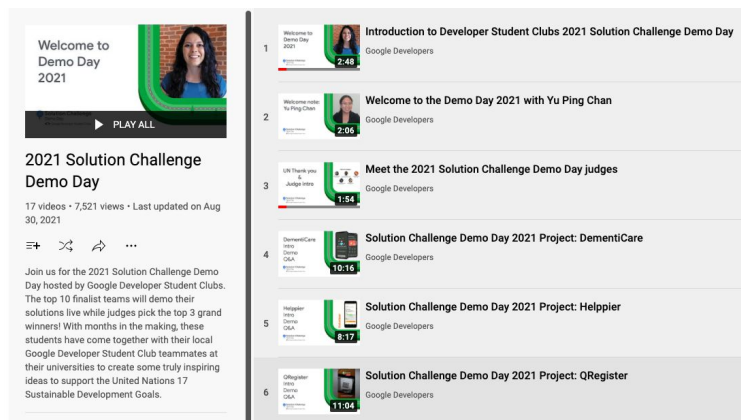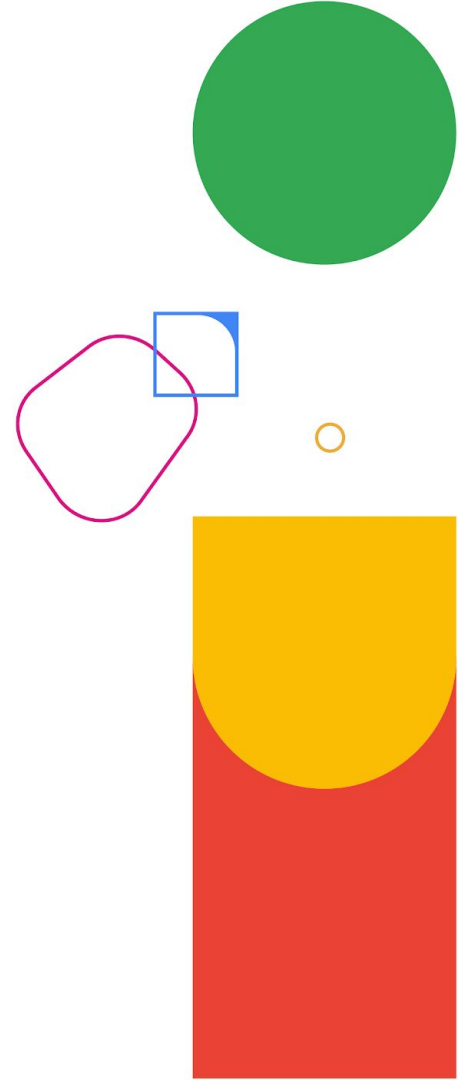
2021 Solution Challenge Demo Day

The 2021 Solution Challenge Demo Day hosted live on YouTube on August 26, 2021 showcased the top 10 winners and their solutions. Google product experts and viewers asked the teams questions to learn more about their projects. Watch to get inspired!
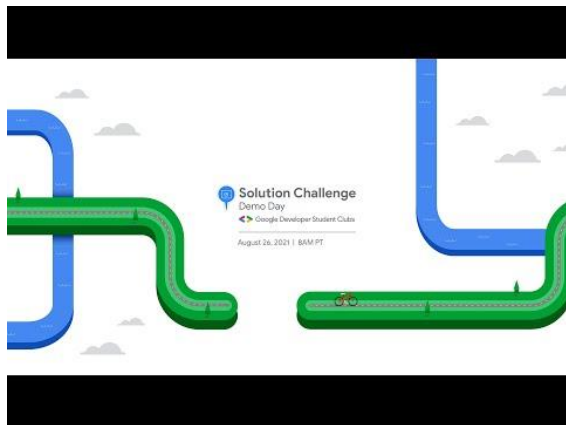
[2021 Demo Day](#)

[2021 Demo Day Playlist](#)

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Google Developer Student Clubs

We can't wait to see what your club builds!