EHS CS COUNCIL

LWSD 2025 PackHack: Competitor's Guide

EHS CS HONOR SOCIETY

Everything you need to know for this year's Packhack!

Dear Fellow Coders,

Welcome to the CS Council PackHack 2025, where innovation meets collaboration! The CS Council, your go-to hub for all things computer science, is thrilled to present this annual coding extravaganza. But first, let's dive into who we are: we are the Computer Science Council at Eastlake High School, a powerhouse of tech and coding enthusiasts within our academic community. Our mission is to fuel collaboration, ignite passion, and create a space where computer science comes to life.

What exactly is a hackathon? It's not just a coding competition; it's where teams of brilliant minds come together to tackle real-world problems an unleash their creativity to create innovative projects. It's coding at its finest, all within a limited 1-week timeframe that will challenge your skills while helping build exposure towards practical applications of computer science in the real-world.
In the world of coding, teamwork is at the core – you'll collaborate, communicate, and brainstorm with fellow tech enthusiasts, gaining insights that go beyond the classroom. And let's not forget the skills you'll gain – problem-solving, creativity, and the ability to thrive under pressure – qualities that are essential for any avenue in life. In a nutshell, PackHack isn’t just about writing lines of code; it’s about celebrating innovation, fostering growth, and providing an unforgettable experience in the world of computer science.

Happy Coding!
-Eastlake HS CS Council

Overview

HOW PACKHACK 2025 WORKS.

Every year, EHS's PackHack brings the heat with two exciting tracks: Beginner and Advanced. New to hacking? No worries — you'll find everything you need to get at [LINK]*. Ready to level up? Advanced teams will tackle bold, creative solutions in **Environmental Sustainability**. Let the innovation begin!

What is **Environmental Sustainability**? (Advanced)

Environmental sustainability is all about meeting our needs today without compromising the ability of future generations to meet their needs while keeping our planet healthy and thriving.
In simple terms, it means:

- Using natural resources wisely (like water, energy, and materials)
- Reducing pollution and waste (like plastic or harmful chemicals)
- Protecting ecosystems and biodiversity (like forests, oceans, and wildlife)
- Finding renewable alternatives (like solar energy instead of fossil fuels)

It's like making sure Earth doesn't burn out its battery and that we leave things better than we found them. Nevertheless, this is just a sliver of this broad topic, so feel free to expand outside.

Your goal is to develop a CS project that addresses an aspect of environmental sustainability. This could involve building an app or website to raise awareness, designing a tool that reduces environmental impact, or coming up with an innovative solution that promotes sustainable living. Whether it is focused on clean energy, waste reduction, conservation, or anything else you are passionate about, your interpretation is welcome. *Think big, think green.*

Don't know whether you should choose beginner or advanced?
Ask yourself if you're ready for the open creativity to make complex solutions or if you'd rather work on your programming skills with structured instructions. Remember, Computer Science is also an artistic field. If you're excited to explore that aspect, the Advanced track could be a great fit. Regardless, the choice is yours, and whatever you pick, **good luck**!

*https://tinyurl.com/packhackbeginnerprojects

Rules

BECAUSE EVERY HERO NEEDS A RULEBOOK.

I. Eligibilty

MEMBER COUNT LIMITS

Squad up — teams of up to 4 hackers allowed.

NO REUSING PROJECTS

If it existed before June 8th, 2025, it's too old for us.

INTELLECTUAL PROPERTY

Your project must be coded by you. Copy-pasting from YouTube tutorials doesn't count [we're watching 👀].

ENTRY REGULATIONS

Multiple teams? Nope. Just one project per student per year.

II. Project Parameters

- Theme/Topic: Your program must reflect only ONE category: Either one of the beginner options or Environmental Sustainability.
- Platform: Your program can be made on any platform: web app, desktop, PC app, web browser extensions, mobile, robot, etc.
- Programing Language: You are free to use any programming language including C/C++, C#, JavaScript, Python, Ruby, etc.
- Functionality: The app has to have some functionality to be included in the competition
- Allowed Content: Your app must be school-appropriate. It cannot be indecent, in bad taste, defamatory, demonstrate a lack of respect for public morals and conduct, demonstrate hatred, or violate the common law/privacy rights of other parties
- Originality: Your app must be original and only owned by you such that no other party has rights, whether known or unknown
- Video Submission: Your video must not exceed the length of 2 minutes

And just as a reminder...

You will have until **June 14th 11:59 PM** to submit all submission materials. Your submission is multi-part. ⚠️NO LATE SUBMISSIONS WILL BE ACCEPTED!

How to Submit

READ IT. DO IT. SECURE YOUR SPOT.

Participants must submit the following:

I. Code

Instructions on how to execute code MUST be in a README.md file

The entirety of the code used to generate the process. The graders should be able to completely replicate your product from your code alone.

II. Video

Think of this like making a trailer or behind the scenes for your project

A video pitch of up to 2 minutes demonstrating your product and explaining its relevance and functions. Please keep the video as authentic as possible.

III. Submitting

Use the following link to submit. One submission per team!

https://forms.office.com/r/dFyFkzT039

Schedule

WHERE THE MAGIC HAPPENS, DAY BY DAY

This epic week kicks off on Saturday, June 8, and wraps up on Sunday, June 14 – mark your calendars because the countdown is on!

Help session links will be sent on email as we approach these dates.

S	PackHack Kick off!
M	5-6pm: Help sessions @ Online
T	5-6pm: Help sessions @ Online
W	5-6pm: Help sessions @ Online
T	5-6pm: Help sessions @ Online
F	5-6pm: Help sessions @ Online
S	11:59pm: **PackHack 2025 ends**! Make sure your submissions are in the form!

Scoring Guide

THE SECRET SAUCE TO SCORING BIG.

Topic	Level 1	Level 2	Level 3	Level 4
Creativity	Completely unrelated to the prompt/theme	Somewhat related to the prompt/theme	Follows the prompt/theme	Completely follows the prompt/theme AND adds their own spin onto it, while keeping it related to the prompt
Accuracy	Code is absolutely not functional	Lots of errors; hard to understand, barely functional.	Minimal errors; don't affect the program too much.	No errors, the program works well.
User-friendly	User has no idea how to use the program after 10 minutes	Program is somewhat difficult to understand for the user.	The program is understandable, usable, and somewhat able to be used by someone after some tries.	Has a detailed help/tutorial page, making the program very easy to use and understand for the user on their first try.
Efficiency	Code is very inefficient and unnecessarily long (ex: program is just a bunch of if conditions)	Code doesn't use optimal coding demands; there can be a lot of improvements	Concise code, minimal number of lines. There can be minimal improvements.	The code is concise and built in a way that is mostly optimal.
Pitch	Unable to understand the pitch at all	Unprepared/ unrehearsed, pitch has some irrelevancies	The pitch is understandable and relates to the theme.	The pitch is well-rehearsed, compelling (not monotonic) and has some creativity.
Documentation and readability	Code is not readable at all, it looks like a bunch of gibberish, even to someone well versed in programming.	Code is somewhat readable for someone who is well versed in programming but could be a lot better.	Code is easily readable for someone well versed in coding; minor improvements could exist.	Code is readable and decently organized, there are comments explaining what some parts of the code do (not required for them all).

Resources

BECAUSE GOOGLING IT 37 TIMES IS INEFFICIENT.

Intro to App Lab: https://lwsd.sharepoint.com/sites/GR-EHS-ComputerScienceHS-SCA/mshackathon2122/SitePages/Workshop-1--Intro-to-App-Lab.aspx?csf=1&web=1&e=00oFt3

Basics of Control: https://lwsd.sharepoint.com/sites/GR-EHS-ComputerScienceHS-SCA/mshackathon2122/SitePages/Workshop-2-.aspx?csf=1&web=1&e=JZ4Nji

UI Design: https://lwsd.sharepoint.com/sites/GR-EHS-ComputerScienceHS-SCA/mshackathon2122/SitePages/Workshop-3-.aspx?csf=1&web=1&e=qB1mVR

Brainstorming App Ideas: https://lwsd.sharepoint.com/sites/GR-EHS-ComputerScienceHS-SCA/mshackathon2122/SitePages/Workshop-4--Brainstorming-App-Ideas.aspx?csf=1&web=1&e=RxQqfX

Intro to ML: https://lwsd.sharepoint.com/sites/GR-EHS-ComputerScienceHS-SCA/mshackathon2122/SitePages/Workshop--5---Intro-to-Machine-Learning.aspx

Data Filtering: https://lwsd.sharepoint.com/sites/GR-EHS-ComputerScienceHS-SCA/mshackathon2122/SitePages/Workshop-6-.aspx

Khan Academy (introduction to basics of coding): https://www.khanacademy.org/computing/computer-programming

Beginner Coding: Learn to program for free with JetBrains Academy

Web Development: W3SCHOOLS.COM

Debugging help: https://www.codecademy.com/resources/blog/how-to-debug-your-code/

More Debugging Tips: https://www.freecodecamp.org/news/what-is-debugging-how-to-debug-code/

Making a pitch: https://medium.com/@techFiesta/hackathon-success-how-to-create-a-winning-hackathon-pitch-6121a20b0202

Credits

IF THIS CRASHES, BLAME THESE PEOPLE.

- Adithya Saby
- Ameer Mohammad
- Anika Prakash
- Anshul Arul
- Anya Mahesh
- Brinda Aniga
- Dev Jha
- Emma Lee
- Eshan Feroz
- Justin Lu
- Krish Jha
- Lan Nhi
- Medha Singitham
- Mitchell Su
- Mithra Annamalai
- Navyah Senthil
- Panache Dhall
- Parv Mehta
- Rohit Venkatesan
- Ruohan Huang
- Shanaya Shah
- Vallabha Sripada
- Ved Singh
- Vedaant Kulkarni
- Vismaya Hegde
- Zhiyu Zhou
- Corey Zhang
- Eva (Yiwen) Tang
- Pranav Tripathi
- Harshit Agrawal
- Prisha Shah
- Hongning Wang
- Ms. Klaka