

WALK • ROLL • GLIDE • CONVERT

PROG 01

due 18 sept 2026 @ 11:59 pm

We affirm that the world's magnificence has been enriched by a new beauty: the beauty of speed."

— F. T. Marinetti, "The Futurist Manifesto," 1909



What you'll learn. In this assignment you will set up a basic web development environment, start programming with HTML, CSS, and JavaScript, and build a simple web app you test directly in your browser. You will build a personal electric transportation conversion app to accomplish these goals.

Overview. Sorting out all the personal electric transportation options out there — boards, scooters, unicycles, e-bikes — is genuinely confusing: they travel at different speeds, cover different ranges, and it's hard to compare them at a glance. For this assignment, you'll build an application which, given a desired distance to travel and a type of personal electric transport, tells you how long the trip will take — and shows you the equivalent time for a different electric transport option.

You will submit a project writeup along with your source code, a way to actually run your app, screenshots, and a narrated video (2 min max). More detailed instructions are below.

Getting set up. Any laptop with a modern web browser and a code editor will work. There's no minimum hardware requirement. We recommend Visual Studio Code, but any text editor or IDE is fine. No emulator or app-store packaging is required. You'll test your app by opening it directly in your browser (a lightweight local server, like VS Code's "Live Server" extension, is optional but convenient).

Application functionality. Within a single webpage your application must:

1. Allow a user to choose a type of personal electric transport listed in the table below (the ones in red are required) and a desired distance to travel. The user should see how much time it will take to complete their journey. For example: traveling 8 miles using an Onewheel GT will take 24 minutes (it travels at 20 mph).
Transport+Distance→Time
2. Allow a user to enter a distance to travel and see the equivalent time required to travel that same distance using all other possible single personal transportation modes. For example: needing to travel 4 miles means Razor E Prime III will take about 13.3 minutes, or about 12 minutes on an Onewheel GT, etc. To clarify, the user selects a distance and your application shows the time it will take to cover that distance on all other (in red) modes of transportation. Extra credit for implementing all transportation modes. **Distance→Time on all Transports**

- **Map to all:** Support all electric transport types above, not just the ones in red by mapping a user input to all transportation types and provide a way to set one mode and visualize the converted results for all other modes at once.
- **Range Limits:** Handle range limitations in the interface (i.e. a visual indication when a user's input distance exceeds a given transport's range).

SUBMISSION

This project will be submitted using bCourses as a Project Report, Video, and GitHub source code check-in. When you submit within bCourse, upload the Project Report as a PDF then click “Add Another File” which will allow you to add the video and then submit.

Report: You will hand in a single PDF report detailing your project. Your report should include:

- Your name and berkeley email address
- A title for your project
- A single image representing the project. Think of this as capturing the overall design and visual language of your solution.
- Text describing the resulting app and how it works (~100 words)
- An interactive walk-through how the application functions demonstrating its various screens. Include text and screenshots describing the interaction.
- AI Usage Disclosure
 - In a short paragraph (~100-250 words), describe how you used AI tools while completing this assignment. **We're not asking whether you used AI. We're asking you to be a designer and computer scientist who can explain and defend every decision in your work, regardless of where the first draft of it came from.** In this paragraph you should address:
 - Which tool(s) you used (e.g., Claude, ChatGPT, GitHub Copilot, Figma AI features, Midjourney) and for what part of the work. In this case it will mostly be focused on writing code and debugging but for others it may be brainstorming ideas, or generating images, editing text, etc.
 - What you kept, changed, or threw out from what the AI gave you, and why. This is the part that shows you were directing the tool rather than the other way around.
 - One thing you did entirely without AI, and one moment (if any) where the tool got something wrong, misled you, or wasn't useful. Designers and engineers both learn a lot from a tool's failure modes so calling that out explicitly is important to bring into your overall process of working with AI.
 - If you didn't use any AI tools for this assignment, say so directly. That's also a completely acceptable answer, and it counts the same as a thoughtful disclosure.
- A link to your checked in GitHub repo containing your source code

Video: a screen-capture video (2 minutes max) showing the implemented elements of interaction. **You must provide audio narration in your video explaining what we are seeing in the video.** No audio narration = no credit for video. **Upload your video directly to bCourses. Do not submit a YouTube or other external link.**

Code: Check all your source code into your course GitHub repo prior to the due date for the assignment.