

CAPSTONE PROJECT · TOOL VERSION · TEAMS OF 3 TO 5

Collaborative Tool Design Project

In this project, you work with a team of 3 to 5 classmates to design a small tool that runs in a web browser. Pick something you'd want to use for a hobby, a job, or another class. You don't write any code. Your team describes the tool in three Microsoft Office files. One of you also records a short video presenting your slides. I then turn your design into a tool you can use in a web browser, using a framework I built for my PhD.

Would your team rather design a game? Use the game version of this page, linked below. It has the same dates and grading.

The project runs alongside the SAM modules. You write the design document after the Word modules and fill in the tool data while you learn Excel. The slides come before the PowerPoint modules, and they need only basic slides and shapes.

All deadlines are at 5:00 PM ET. Late work loses 20%.

This is the printable version of the assignment page. The web version at

<https://sgilson7.github.io/cis110-game-lab/tool/> also shows which checkpoint is next. The game version is at <https://sgilson7.github.io/cis110-game-lab/>.

3–5 students per team	3 Office files in one shared folder	7 checkpoints, with one graded submission	100 points, graded once
---------------------------------	--	---	-----------------------------------

DELIVERABLES

What to submit

Your team keeps three files in one shared OneDrive folder. Download the templates below and keep their file names, because I use the names and headings to find each part of your design.



Tool design document

ToolDesign.docx

A 2–4 page description of your tool, written in your team's own words under the template's ten headings.

- Who uses the tool, and what they're trying to get done
- Every control: each button, key, click, or box
- The rules, and what goes in and comes out
- What one use looks like, from start to finish
- What's in scope, what's a stretch goal, and what you're leaving out

Draft due

Mon, Nov 9

Points

25



Tool data workbook

ToolData.xlsx

Every number and list your tool needs, one row per item, under the headers already in the template.

- The rules, each with a worked example
- Every input, what's allowed, and what happens when it's wrong
- The words your tool uses, and what each one means
- Every image or sound, with who made it and its license

Draft due

Mon, Nov 16

Points

20



Presentation and recording

ToolPitch.pptx

A 5–8 slide presentation that explains your design to someone who hasn't read the document, and a video of one member presenting it.

- The central idea, on one slide
- The steps a person takes, as a diagram
- The key rules
- A mock-up of one screen, drawn with shapes
- A 3–5 minute recording of one member presenting the slides, saved as **ToolPitch.mp4**

Draft due
Mon, Nov 23

Points
20

ToolDesign.docx

Word template

ToolData.xlsx

Excel template

ToolPitch.pptx

PowerPoint template

Example folder (ZIP)

A completed sample for a made-up tool

The remaining 35 points cover your tool concept and scope (20 points) and how your team organized and shared the folder (15 points).

SCHEDULE

Checkpoints and due dates

The project has 7 checkpoints. At each checkpoint before the last, I check your shared folder and leave comments in your files. I grade the folder once, after the final deadline on Thursday, December 10.

Mon, Oct 26

1 Team up

Teams of 3 to 5 formed in Blackboard; introductions posted

Join a team in Blackboard. Then post a short introduction in your team discussion: when you can work, and what kind of tool would help you. Use the team discussion to talk until your shared folder is ready.

Mon, Nov 2	2 Pitch and set up	Tool idea chosen; roles assigned; shared folder created Each member pitches one tool idea in the team discussion, and your team picks one. The Coordinator then creates the shared folder and shares it with everyone, including me. Each member adds a row and role to the Team sheet, and your team writes a short team charter.
Mon, Nov 9	3 Write	Word tool design document draft in shared folder Every heading in the design document has text. Each member leaves at least one comment on a section that someone else wrote.
Mon, Nov 16	4 Data	Excel tool data workbook draft in shared folder The workbook has at least 5 complete rows of data, and every number in the design document appears in it.
Mon, Nov 23	5 Present	PowerPoint design summary and presentation recording in shared folder Every slide in the presentation has a draft, and one member has recorded a video presenting it, saved as ToolPitch.mp4 . After this deadline, I download your folder and build a working prototype of your tool over Thanksgiving break.
Nov 25–27	Thanksgiving break	No checkpoints. I build your tools over the break.
Mon, Dec 7	6 Review	Complete folder shared for instructor feedback From Monday, November 30, try the prototype I send you and add what should change to the Changes sheet. Each member adds at least one request by this date. You can keep adding requests until Thursday, December 10.

Thu, Dec 10

7 Submit

Graded · 100 points

Final Word, PowerPoint, and Excel files, folder link, and contributions due

Submit the folder link in Blackboard with one sentence about what each member contributed. Then complete the private peer rating survey in Blackboard. After this deadline, I plan to make a final pass on your tool using your change requests.

Prototype round (ungraded). Every file is in by Monday, November 23, before Thanksgiving break, and I build your tool over the break. By Monday, November 30, I plan to send each team a link to a working version. From then until Thursday, December 10, add change requests, and I plan to make a final pass on the tool after that. Your grade doesn't depend on the prototype.

HOW IT WORKS

How your design becomes a tool

Your team designs the tool, and I build it. I use an AI coding agent that works inside a framework designed to check its own work. The agent reads exactly what you write, so the clearer your files are, the closer the tool is to what you meant.

1

YOUR TEAM

Form your team

Join a team in Blackboard and introduce yourselves in your team discussion.

2

YOUR TEAM

Pitch and choose

Pitch ideas in the team discussion, pick one, assign roles, and create the shared folder.

3

YOUR TEAM

Write and fill in

Write the design document, fill in the workbook, then build the slides.

4

INSTRUCTOR

Build a prototype

I download your folder after Mon, Nov 23 and build a first working version over Thanksgiving break.

5**YOUR TEAM****Try it and request changes**

Try the prototype and list what should change in the **Changes** sheet.

6**INSTRUCTOR****Give feedback**

I reply to your requests as they come in, until Thu, Dec 10.

7**YOUR TEAM****Submit**

Make final edits and submit the folder link in Blackboard by Thu, Dec 10.

8**INSTRUCTOR****Final pass and gallery**

After Thu, Dec 10, I make a final pass on your tool. If everyone on your team agrees, I post it to the class gallery.

MICROSOFT 365

Set up your shared folder

Your team creates its shared folder at checkpoint 2, after you choose your tool. Until then, use your team discussion in Blackboard.

Use your CCCC Microsoft 365 account for this project. You can work in Word, Excel, and PowerPoint in a web browser, or in the desktop apps with AutoSave turned on. Either way, your teammates see your changes as you make them.

Microsoft 365

1**Sign in to Microsoft 365.**

Go to microsoft365.com and sign in with your CCCC student email address and password. Then open **OneDrive** from the app list.

2**Create the folder (one person).**

Your team's Coordinator selects **Create or upload > Folder** and names it **CIS110 Team 04 – Tool Name**, using your team number and tool name.

3**Add the templates.**

Download the three templates from this page or from Blackboard, and upload them to the folder. Don't rename them.

4**Share the folder.**

Select the folder, and then select **Share**. Enter each teammate's CCCC email address and mine, sgils676@cccc.edu. Set the permission to **Can edit**, and then select **Send**.

5 Add a shortcut (everyone else).

In OneDrive, open **Shared**, find your team's folder, and select **Add shortcut to My files**. The folder now appears with your own files.

6 Work in the files together.

Edit the parts you own. To ask a teammate a question, add a comment and type @ followed by their name.

7 Check your version history.

To see who changed what, select **File > Info > Version History**. I use version history, comments, and the **Team** sheet to see each person's contribution.

8 Submit the folder link.

Select the folder, select **Share > Copy link**, and paste the link into the Blackboard submission.

Google Drive (backup option)

Use Google Drive only if you can't share the folder in Microsoft 365 after you try again in a browser. If you switch, send me a Blackboard message so that I know where to find your files.

1 Create a folder in Google Drive.

One person goes to `drive.google.com`, creates a folder, and names it the same way: `CIS110 Team 04 – Tool Name`.

2 Upload the templates as they are.

Upload the three templates without converting them. Google Drive opens Word, Excel, and PowerPoint files in Office editing mode, so they keep their original format.

3 Share the folder.

Select **Share**, add each teammate and me as **Editor**, and then select **Send**.

4 Submit Office files.

If a file was converted to Google Docs, Sheets, or Slides, select **File > Download** and choose the Microsoft Office format. Put that copy in the folder before you submit the link.

WHAT YOUR FOLDER LOOKS LIKE

OneDrive > My files

CIS110 Team 04 – Recipe Scaler

 ToolDesign.docx

 ToolPitch.pptx

 ToolData.xlsx

 ToolPitch.mp4

Coordinator

Owner

Every teammate

Can edit

Instructor

Can edit

PRESENTATION RECORDING

Record your presentation

By Monday, November 23, one team member records a video presenting your slides, 3 to 5 minutes long. Talk through each slide as if you were presenting to the class, so that someone who hasn't read your files understands your design.

Your voice is required; your face on camera is optional. Save the video in your shared folder as **ToolPitch.mp4**. It counts toward the presentation's 20 points. I don't post the recording or put it in your tool.

PowerPoint desktop app

1 Open the slides in the desktop app.

Open **ToolPitch.pptx** from your shared folder. In a browser, select **Editing > Open in Desktop App**, because PowerPoint for the web can't record narration.

2 Record the slide show.

On the **Record** tab, select **From Beginning**. On a Mac, select **Slide Show > Record Slide Show**. Talk through each slide, and press Esc when you finish.

3 Check it.

Play the slide show from the beginning and listen. To redo one slide, go to it and select **Record > From Current Slide**.

- 4 **Export the video.**
Select **File > Export > Create a Video**, keep **Use Recorded Timings and Narrations**, and select **Create Video**. On a Mac, select **File > Export** and choose **MP4**.
- 5 **Save it in the folder.**
Name the video `ToolPitch.mp4` and save or upload it to your shared folder.

Without the desktop app

Use this if you can't install or open the PowerPoint desktop app, for example on a school laptop.

- 1 **Start a screen recording.**
Use any screen recorder that records your voice, such as Clipchamp in a browser or the Snipping Tool on Windows. You can also film the screen with a phone.
- 2 **Present the slides.**
Open the slides in PowerPoint for the web, select **Slide Show**, and talk through each slide.
- 3 **Save it in the folder.**
Save the video as `ToolPitch.mp4` and upload it to your shared folder. If your recorder saves another format, upload that file and send me a Blackboard message.

TEAM ROLES

Choose team roles

At checkpoint 2, give each person a role and record it in the **Team** sheet. Each role owns one part of the project. In a smaller team, some people take two roles.

Coordinator

Owens the shared folder, keeps track of deadlines, and submits the link.

`Team sheet and submission`

Design writer

Leads the design document and keeps it in the team's own words.

`ToolDesign.docx`

Data lead

Turns every number and list in the design into rows in the workbook.

`ToolData.xlsx`

Presenter

Builds the slides, including the screen mock-up, and records the presentation. Another member can record it instead.

`ToolPitch.pptx` and `ToolPitch.mp4`

Look and wording lead

Chooses the tool's look and wording, finds images your team has permission to use, and lists each one.

Assets sheet

GRADING

How your project is graded

The project is worth 100 points. It's one of the four Capstone Projects in this course, alongside the SAM capstones for Word, Excel, and PowerPoint. I grade your folder once, after the deadline on Thursday, December 10. Checkpoints aren't graded on their own, but they keep your team on pace.

Tool concept and usable scope	20
Word tool design document	25
PowerPoint presentation and recording	20
Excel structured tool information	20
Shared-folder organization and collaboration	15
Total	100

Every member needs to make a documented contribution. I review version history, comments, the **Team** sheet, and a short private peer rating that each person completes at the end. A member without a documented contribution might receive a different grade from the rest of the team.

AFTER YOU SUBMIT

What happens to your tool

Tools built with this framework run in any modern web browser, with nothing to install. If everyone on your team agrees, I post your tool to a public class gallery, which you can link from a résumé or portfolio.

Would your team rather design a game? Use the game version of this page. The examples below start with three tools and then show games built with the same framework.

AI use (level AI-2)

You can use AI for the tasks I name, such as brainstorming tool names. Describe how you used it in section 10 of the design document. You're responsible for checking anything AI produces.

Images and sounds

Use only your own work, or files with a license that allows reuse. List each one in the **Assets** sheet.

Private information

Don't put phone numbers, addresses, grades, or photos of real people in your files.

Your recording

Your presentation recording stays in your shared folder for grading. I don't post it or put it in your tool.

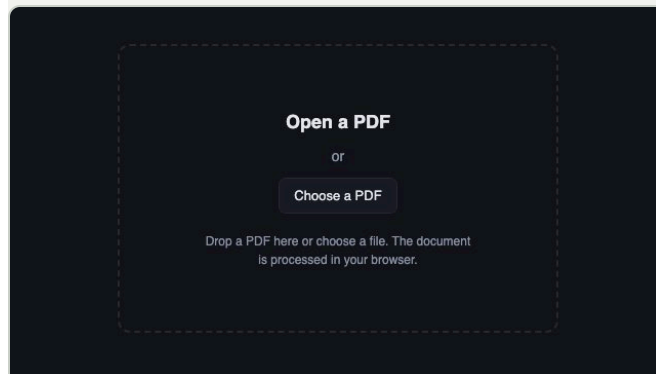
Posting is optional

Your tool is posted only if every team member agrees. Public pages show your team number and tool name. Your names appear only if each person opts in.

Your grade

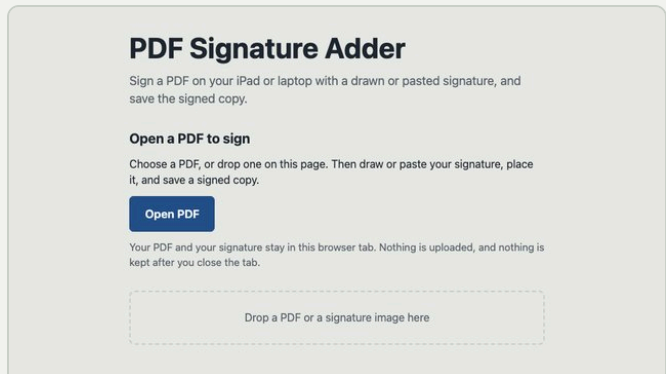
Your grade comes from your files and your collaboration. It doesn't depend on whether the tool is built or posted.

EXAMPLES BUILT WITH THE SAME FRAMEWORK



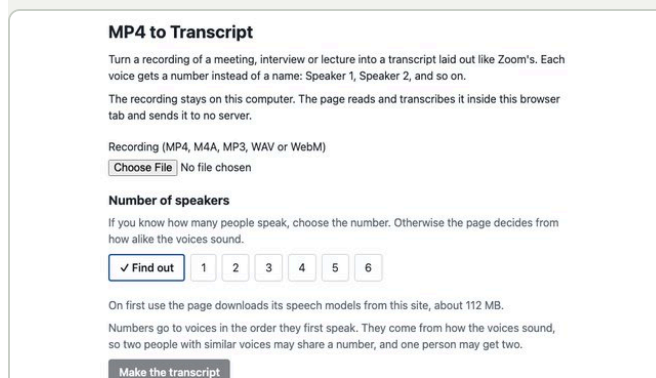
PDF Redactor

Find names and other identifiers in a PDF, review the redaction boxes, and save a clean copy



PDF Signature Adder

Sign a PDF with a drawn or pasted signature, without uploading it anywhere



MP4 to Transcript

Turn a recording into a transcript laid out like Zoom's, in your browser



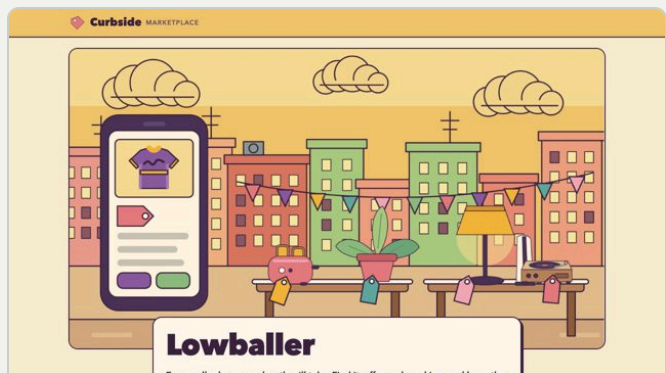
Ape Race

A vine-swinging racing game



Long Time Comin'

A third-person action survival game



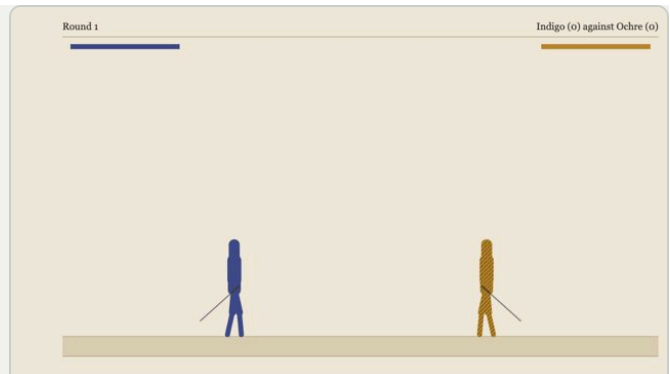
Lowballer

A 2D marketplace haggling game



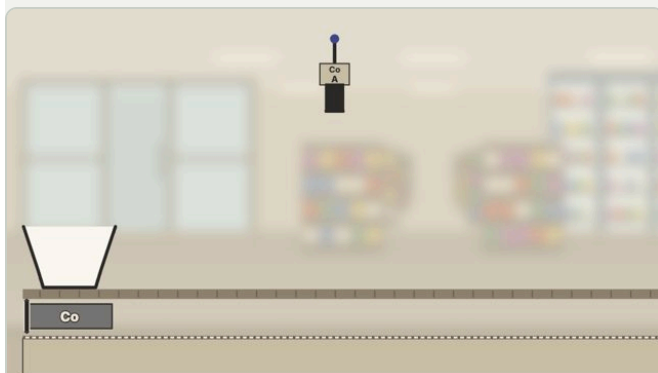
Ribbit King

Frog golf for up to four players



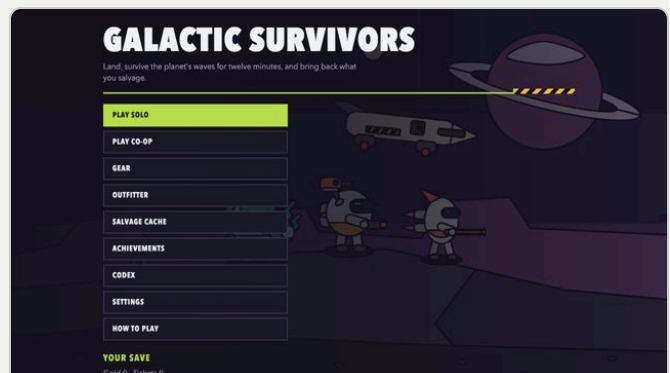
Vagrancy

Two-player sword fighting where each player controls only the arms



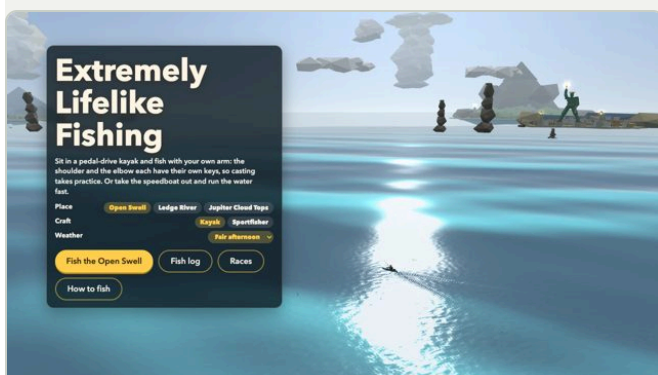
Slushline

Pour slush onto cups on a moving belt



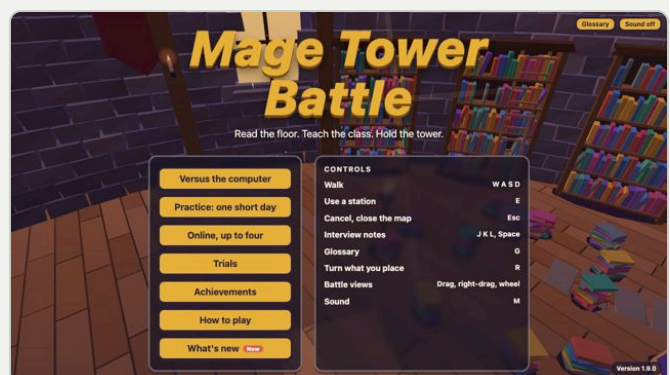
Galactic Survivors

Survive twelve minutes of waves on an alien planet, alone or with a friend



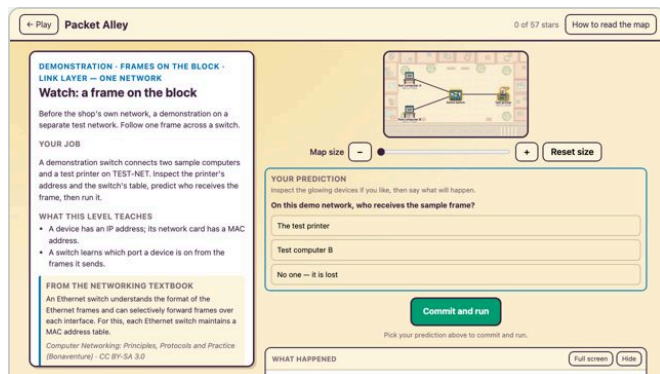
Extremely Lifelike Fishing

Kayak fishing where each shoulder and elbow has its own keys



Mage Tower Battle

Rebuild a mage college by crafting spells, then defend its towers



Packet Alley

A networking game: follow packets and solve TCP/IP challenges

FAQ

Frequently asked questions

▼ Do I need to know how to code?

No. You describe the tool in Word, Excel, and PowerPoint, and I do the building.

▼ How big should our tool be?

Aim for a tool that someone can learn in a minute and use in a few. One screen and one clear job is a good place to start.

▼ Can we design a game instead?

Yes. Use the game version of this page. It has game versions of the three templates, with the same dates and grading.

▼ How does my team talk before we have a shared folder?

Use your team discussion in Blackboard. To reach your team another way, open **Groups** and send your team a message. I can read every team discussion.

▼ What if a teammate stops responding?

Send me a Blackboard message before the next checkpoint. I can see each person's contributions in version history, and I'll follow up with your team.

▼ **Can we use the desktop apps instead of the browser?**

Yes. Open the files from the shared folder and turn on AutoSave so that your teammates see your changes. Don't work on a copy saved to your computer.

▼ **What if our tool doesn't get built?**

Your grade stays the same. It comes from your three files and your collaboration.

▼ **I can't share the folder in Microsoft 365. What should I do?**

Sign out, sign back in to microsoft365.com with your CCCC account, and try again in a browser. If it still doesn't work, use the Google Drive backup option in the setup steps and send me a Blackboard message.

▼ **Where do I get help?**

Send me a Blackboard course message; I reply within 48 business hours. You can also meet with me during student hours on Thursdays from 5:00 PM to 6:00 PM on Zoom. Email sgils676@cccc.edu for the link.

CIS 110 LN182 · Fall 2026 · Instructor: Sam Gilson

This page runs in your browser. It stores nothing and sends nothing about you.