

Capstone Team Name: _____ School: _____
 Team Members (3–4): _____ Class: _____

Session 20: Capstone Planning & Blueprint

Congratulations! Over the past 17 sessions, you started from zero: touching a computer for the first time, mastering typing, managing files, researching safely online, writing formatted reports, building automated spreadsheets, presenting slides, and coding algorithms in Scratch. Now comes the ultimate test: **The Capstone Final Project!**

1. Plain Talk: Building the Whole House

Think about a master mason constructing a house: first, they gather sand, stones, cement, water, and timber. Those are the individual materials. But the materials alone are not a house! The mason must study a **Blueprint**, mix the cement, lay the foundation blocks, raise the walls, and put on the roof.

In this final module (Sessions 20, 21, and 22), you will unite your digital tools to build a genuine, working solution for an issue in your school or neighborhood in Ghana!

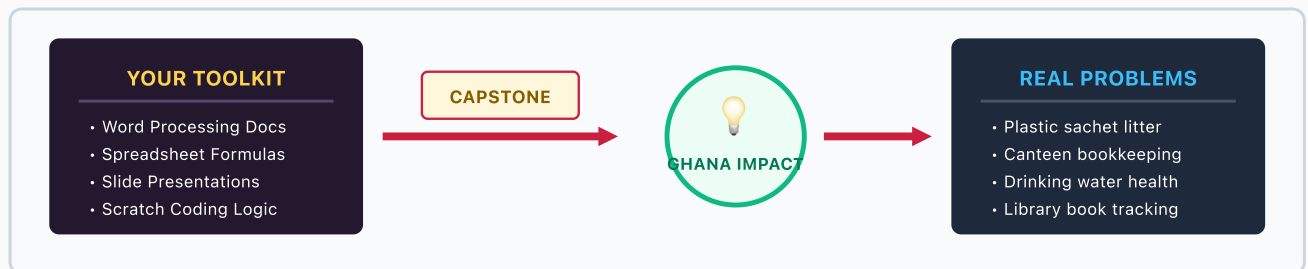


Figure 20.0: The Capstone Bridge. You are using technology tools to create tangible solutions for your community.

2. The Capstone Schedule (3 Sessions)

Session	Core Deliverables	Status Goal
Session 20 (Today)	Choose track, write Project Charter, build directory tree, and create Prototype v0.1 .	Blueprint Approved
Session 21	Build working prototype, test with peer reviewers, record feedback, and debug.	Working Prototype
Session 22	Final visual polish, 3-minute stage showcase, peer Q&A, and club graduation!	Graduation & Showcase



1. The Four Approved Capstone Tracks

Read through the four project options below with your team. Pick **ONE** track that excites you most:

TRACK A: School Health & Environment

The Challenge: Gutters clogged with plastic sachets or uncovered water drums causing mosquito breeding.

What You Build:

- A professional 1-page campaign notice (Word).
- A 3-slide visual pitch presentation (PowerPoint).

TRACK B: Market & Canteen Bookkeeper

The Challenge: Local food vendors or school canteen losing track of daily sales, costs, and profit.

What You Build:

- A table with SUM/AVERAGE formulas.
- A column chart comparing items (or a pie chart showing each item's share of the total).

TRACK C: Interactive Educational Game

The Challenge: Younger primary school students find hygiene or road safety rules boring to memorize.

What You Build:

- A playable Scratch animation or mini-quiz.
- Includes a live Score variable and restart loop.

TRACK D: Culture & Community Tourism

The Challenge: Promoting local historic landmarks, festivals, or eco-tourism sites in your region.

What You Build:

- A verified digital research report with citations.
- A multimedia digital photo/slide guide.

2. The "Keep It Manageable" Rule

DO NOT TRY TO BUILD FACEBOOK IN 3 DAYS!

The most common mistake young innovators make is choosing an impossible project (e.g. *"We want to build a self-driving car in Scratch"*).

The Pro Rule: Choose a clear, simple problem that you can build, polish, and demonstrate beautifully in 3 sessions. One finished, bug-free spreadsheet or 3-slide presentation beats a broken, half-finished giant dream!



1. Plain Talk: The Cardboard Model House

An architect never pours concrete on day one. First, they cut cardboard and tape together a small scale model of the building. It has no real glass windows or working light switches, but it shows everyone the size, shape, and door positions.

In tech, this early working draft is called a **Prototype (Version 0.1)**. It is built quickly so you can test if your concept makes sense before spending hours on final styling!

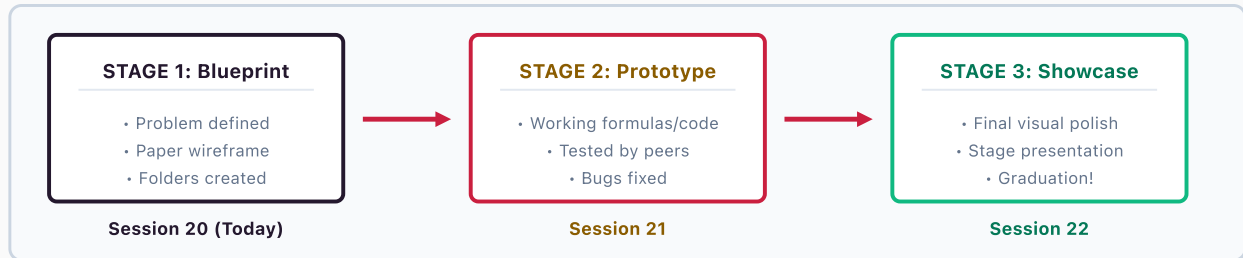


Figure 20.1: The Capstone Evolution. Today we lock in the Blueprint and start the raw Prototype.

2. Safe Data Ethics for Capstone



CAPSTONE DATA PROTECTION LAW

Do **not** collect real telephone numbers, personal home addresses, or secret financial records from real people in your neighborhood!

Use Realistic Simulated Data: If building a canteen spreadsheet, use sample items (*Jollof Rice, Meat Pie, Sobolo*) and approximate prices. Protect community privacy at all times!



1. Complete Your Team's Project Charter

Fill in every section of this canvas. This is your official agreement with your Tech Club mentor:

1. Project Title:

2. Chosen Track (Tick One):

- ☐ Track A: Health & Environment ☐ Track B: Canteen / Market Bookkeeper
☐ Track C: Scratch Educational Game ☐ Track D: Culture & Tourism Guide

3. The Real Problem We Are Addressing:

4. Who Will Use / Read This Solution? (Target Audience):

5. What Will Our Finished Solution Be?

6. Software Tools We Will Use:

- ☐ Word Processor ☐ Spreadsheet ☐ Presentation Slides ☐ Scratch Coding ☐ Web Browser
Research

7. Team Roles (every member needs a role; one person may hold two):

Project Manager: _____ Designer / Builder: _____

Researcher / Tester: _____ Presenter: _____



1. Lab Mission: Set Up Folders & Build Prototype v0.1

Follow these 5 steps to organize your files and begin your project skeleton:

1 Build Your Capstone Directory Tree:

Press **Win + E** → Navigate to **Documents > BIH_Practice**.
Create a main folder: **Capstone_[TeamName]**.
Inside it, create two subfolders: **Drafts** and **Final_Showcase**.

2 Launch Your Chosen Software Tool:

- **Track A:** Open Word (notice); PowerPoint later (3-slide pitch).
- **Track B:** Open Excel / Calc → Create blank workbook.
- **Track C:** Open Scratch → Start fresh project.
- **Track D:** Open Word (report); PowerPoint later (photo/slide guide).

3 Build the "Skeleton" Structure (Version 0.1):

Do not worry about colors or fancy graphics today! Build the structure:

- *Word users:* Type the main Title and 3 section headings.
- *Excel users:* Type Column Headers across Row 1 (Item, Qty, Price, Total).
- *PowerPoint users:* Create your 3 slides and type the titles on each.
- *Scratch users:* Choose your main Sprite and Backdrop.

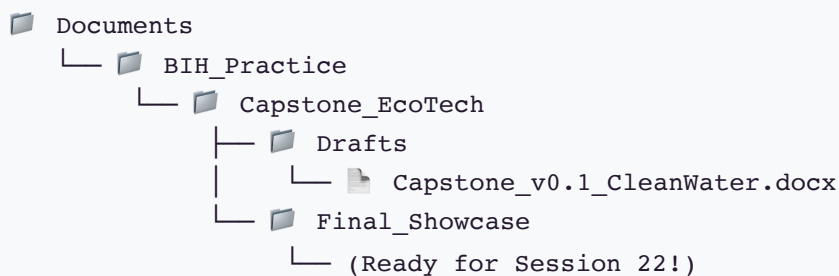
4 Initial Save (Save As...):

Save your file into **Documents > BIH_Practice > Capstone_[TeamName] > Drafts**.
Use the naming formula: **Capstone_v0.1_[ProjectName].docx** (or .xlsx / .pptx / .sb3).

5 Mentor Blueprint Inspection:

Raise your hand and show your **Canvas (Page 4)** and your **Version 0.1 Skeleton** to your mentor for sign-off!

2. Visual Target (Sample Folder Directory Structure)



1. Milestone 1 Checklist (To Be Completed Today)

Verify that your team has completed all four foundation milestones:

- ☐ We formed our team and selected one approved Capstone Track (A, B, C, or D).
- ☐ We completed all 7 boxes of the Project Planning Canvas on Page 4.
- ☐ We built our folder directory tree inside Documents > BIH_Practice .
- ☐ We built and saved our initial **Version 0.1 Skeleton file** .

2. Written Reflection

Question 1: Why is it smart to build a rough "Prototype" before spending hours perfecting colors and animations?

Question 2: What is one challenge your team might face during Session 21 (building and testing), and how will you solve it?

3. Official Mentor Capstone Approval Sign-Off

(Your mentor must review and sign below before your team can begin Session 21 building!)

Mentor Evaluation Criteria	Needs Revision	Approved ✓	Outstanding! ★
Community Relevance: Does the project address a real issue?	☐	☐	☐
Feasibility: Can the team realistically finish in 3 sessions?	☐	☐	☐
Data Safety: Does the plan respect privacy and P.I.I. rules?	☐	☐	☐
File Setup: Are directories and v0.1 files created properly?	☐	☐	☐

Mentor Notes / Advice for Session 21:

Mentor Signature: _____ Date Approved: _____