Project Part 3: Proposed Solution

Introduction to Agricultural Informatics

Goal: Describe an informatics solution to the food system or agricultural problem you have previously defined and conceptualized solutions for.

Required: Describe your Proposed Solution, by identifying the specific data and/or data collection methods needed, outlining your specific approach to design and implementation of the solution, and determining next steps for your project. This assignment will bring together each of the pieces you have worked on so far. You can select bits and pieces of each of the different solutions you came up with in Part 2, focus on one idea, and/or include new material. You MUST build on your previous submission.

You will be graded on the content of your **Report Content** and **Presentation Quality.** There are two rubrics at the end of this document, one for each component.

Your presentation can be thought of as an "executive summary" of your report. I expect about 8-10 slides covering the content above. You are permitted to have additional slides that provide detail on data sources, references, or more description, feel free to use this space – these would not be shown in the presentation but can contain extra detail that you think is necessary.

Your report should describe your full proposed solution (approx. 10 pages). Your report must have the following sections with enough detail. Feel free to change the subheadings, but the main items in bold should appear in your table of contents:

- **Problem Statement**
  - Why is this an informatics problem?
  - Who is affected by this problem?
  - Why has this problem not been solved yet?
- **Overarching Methodology**
  - Describe how you will go about bringing this solution to life.
- **Data Acquisition Plan**
  - What data will you use?
  - How will you collect/acquire it?
  - Summarize your data collection and data management strategy.
- **Solution Architecture**
  - What is the overarching architecture of your proposed solution?
  - What are the major components you will need to implement?
  - What languages will you implement this in? Any frameworks?
  - Show any mockups/diagrams you think will help articulate your solution.
  - Include any details we need to know to understand your vision.
- **Anticipated Challenges**
  - What challenges do you think you will face in implementing this solution?
  - What strategies will you use to overcome these?
  - How feasible is your proposed solution given the time frame and anticipated effort?
- **Timeline**
  - When do you want to go through with this plan?

    - How long will it take?
    - Use some form of a timeline graphic, Gantt chart, or table to convey your proposed timeline.
- **Next Steps**
    - Do you plan on following through with this project idea? If yes, where, and how? If no, why not?
- **References**

Presentation Logistics: You will present your proposed approach and solution in-lecture and in-lab on Nov 30 & Dec 1. There will be a random drawing to determine when you present unless you have a conflict (e.g., those with pre-existing lab conflicts will present during lecture time).

- **Date:** Nov 30 & Dec 1 (lecture & lab time periods)
- **Timing:** You will have 15 minutes to deliver your presentation. There will be 2 minutes for questions.
- **Submission:** Your slides MUST be submitted by **7am Nov 30** to allow the instructor time to compile all slides onto one computer for presentation.
    - If using Microsoft Powerpoint or Keynote, share the ppt file itself.
    - If using some sort of hosted slides (like I use for class) feel free to just share the link. Remember it MUST work on my computer.
    - In both cases, you will need to **SUBMIT A PDF VERSION OF SLIDES ONLINE** via Brightspace.

Report Logistics: The report is due on Dec 8. You will submit a PDF ONLINE via Brightspace

What this assignment is not: We do not expect you to have prototyped, implemented, or otherwise tested any of your approach out. This project is about proposing a solution, with the execution left to you to continue outside of the scope of this class.

Report Content Grading Rubric (55 total points):

Criteria	**Exemplary**	**Good**	**Weak**	**Unacceptable**
Addresses: Problem Statement	5 points Problem and major stakeholders are clearly defined. It is clear that this is an unsolved problem due to gaps in knowledge, research, or other challenges.	4 points Problem, stakeholders, and why this is an unsolved problem are described but details are missing.	2 points Problem, stakeholders, and why this is an unsolved problem is vague and incomplete.	0 points No problem statement, stakeholders, or information about why this is an unsolved problem.

Addresses: Overarching Methodology	5 points A clear set of step-by-step procedures are provided (in the form of a method) to implement a solution to the problem.	4 points Exact steps are not clear, though there is some method description.	2 points Vague description of methods.	0 points No description of methods.
Addresses: Data Plan	10 points Specific data acquisition and management plan is in place with a clear articulation of which data are going to be acquired, and how. The full life cycle of the data is apparent.	6 points Specific data are mentioned, but it is unclear how they are going to be collected, and portions of the data life cycle are unclear.	4 points It is not clear which data are to be collected, and how. It is not clear how the data will be managed.	0 points No mention of data acquisition or management.
Addresses: Solution Architecture – major components	10 points The major components of the proposed solution are outlined, with a clear description of how they fit together to form a complete informatics solution to the problem.	6 points Major components of the proposed solution are outline, though it may be unclear how they fit together.	4 points Major components of the proposed solution are missing, and it is the overarching architecture of the solution is not apparent.	0 points No mention of the major components of the proposed solution architecture.
Addresses: Solution Architecture –	10 points Implementation details of the	6 points Implementation details are	4 points Vague implementation	0 points

implementation details	solution are clearly laid out (see questions).	described, with some missing details.	details – it is not clear how this solution will be implemented.	No implementation details.
Addresses: Anticipated Challenges	5 points Major threats to validity are identified with a clear strategy for how the presenter will overcome or work to resolve these challenges.	4 points Major threats to validity are identified with some sort of strategy for how the presenter will overcome or work to resolve these challenges, though details are missing.	2 points Some threats to validity are identified with a vague strategy for how the presenter will overcome or work to resolve these challenges, Many details are missing.	0 points No challenges or strategies described.
Feasibility	5 points Proposed solution is feasible! The core technologies exist and/or the presenter has clearly described how missing pieces can be implemented to ensure that a prototype can be built.	4 points Proposed solution is somewhat feasible, though there may be some challenges regarding scope, scale, and prior work to enable this prototype to be implemented.	2 points Proposed solution is not feasible, though the presenter makes some arguments for why it is possible.	0 points Feasibility is not described.
Addresses: Timeline	5 points A clear timeline of activities exists, in graphic form, allowing the reader to see the sequencing of tasks over a	4 points A timeline exists, in graphic form, though the sequencing of tasks is not clear or completely reasonable.	2 points A timeline has been vaguely described, though it is not clear how tasks will be sequenced.	0 points No timeline described.

	reasonable period of time.			

Presentation Quality Grading Rubric (15 total points):

Criteria	**Exemplary**	**Good**	**Weak**	**Unacceptable**
Clarity	5 points Language is clear and concise. Solution is well-described and understandable to the listener.	4 points Presenter described the solution adequately, though may be unclear.	2 points Presenter was not very clear, listeners were not able to follow the complete narrative, though major points were understandable.	0 points Presenter was not clear, coherent, and it was not possible to follow the narrative.
Coverage	5 points All major points from the report were covered in the slide content.	4 points Some major points were missing, though the solution still came across.	2 points Missing major aspects of the solution, though the solution still came across.	0 points Missing major aspects of the solution leaving the listener with too many gaps to understand the complete proposal.
Style	5 points Content on the slides is clear and concise. Solution is well-described and understandable to the viewer.	4 points Slides describe the solution in a way that is understandable to the reader but may be wordy.	2 points Slides are either superficial, redundant, or contradictory. Most of the points are understandable.	0 points The reader will not understand the solution. Slides are not clear and make understanding the solution challenging.