1. What are the main phases of the AI for Good project framework presented in this course? Select all that apply. 1 / 1 point

- [x] Evaluate.

  Correct
  Top work! This is the fourth phase of the AI for Good project framework. In the evaluate phase you measure the project impact, communicate results and determine the next steps.

- [x] Design.

  Correct
  Yes! This is the second phase of the AI for Good project framework. In the design phase you prototype your solution, ensure data privacy and design the user experience.

- [x] Implement.

  Correct
  Excellent! This is the third phase of the AI for Good project framework. In the implement phase you productionize AI models, integrate the user experience and test with the end users.

- [x] Explore.

  Correct

2. What are the main steps the explore phase? Select all that apply. 1 / 1 point

- [x] Define the problem.

  Correct
  That's right! It is important to define a clear and concise problem statement.

- [x] Engage stakeholders.

  Correct
  Great!

- [x] Determine if AI could add value.

  Correct
  Excellent! Remember that AI does not necessarily add value to every new project. It is important to avoid an "AI first" mindset and consider all possible solutions.

- [ ] Design the end user experience.

3. What are the main questions you need to ask yourself at the end of the design phase? Select all that apply. 1 / 1 point

- [x] How will your design address the problem you set out to work on?

  Correct
  Good job! It is important to explore and analyze potential models to address your problem before moving onto the next phase, the implement phase.

- [ ] Who are the stakeholders?
- [x] How will you address issues with imbalances, biases, privacy, or other concerns with your data?

  Correct
  That's right! It is important to do a thorough analysis of your data regarding data privacy, security, bias or other concerns.

- [x] How will the end user interact with your system?

  Correct
  Fantastic! It is important to keep in mind the key stakeholders and consider how your end users will interact with your system.

- [x] What kind of model will you implement, and how will you measure its performance?

  Correct
  Great!

4. 1 / 1 point

Where was the potential to “do harm” in the maternal and infant health in Nigeria project? Select all that apply.

- [x] The text messages being categorized contained personal information and people’s health conditions. Exposing this information beyond the staff of the clinic would have the potential to do harm.

  Correct
  This was a consideration in the context of the “do no harm” principle.

- [x] Blindly trusting AI model results in the area of healthcare could lead to poor health outcomes or physical harm.

  Correct
  That’s right, and more generally the implications of blindly trusting AI model results would be a consideration common to most AI projects in the context of the “do no harm” principle.

- [ ] There was no potential to do harm in this project

5. In the maternal and infant health in Nigeria project, despite achieving satisfactory model performance and improving the efficiency of clinic staff, why was the project discontinued? 0.6666666666666666 / 1 point

- [x] The project was ultimately too expensive for long term implementation.

  This should not be selected
  No, the main issue with the project was a poor user experience.

- [ ] The AI system implemented was not able to improve the efficiency of clinic staff in terms of increased message throughput and reduced response times.
- [x] Clinic staff felt like they were spending too much time annotating data and less time with their patients.

  Correct
  Despite the measured benefits with regard to message throughput volume and response times, the user experience for clinic staff labeling data was poor and not sustainable.

6. Imagine you're working with a team of medical professionals on a project to identify possible cancer cases from Magnetic Resonance Imaging (MRI) scans of the brain. The problem they are faced with is that it can take days or weeks to receive an official diagnosis from a human pathologist because all MRI scans are placed in a queue and are reviewed by the pathologist in the order they were received. The vast majority of scans reveal no cancer and the team you are working with is interested in developing a way of identifying and prioritizing likely cancer cases immediately after a scan is completed such that they can be moved to the top of the queue for faster human review. Let's start with the problem definition. What might be a good problem definition for your case study? 1 / 1 point

- ○ Medical professionals need a way to quickly identify likely cancer cases from MRI scans.
- ○ We need to identify cancer from MRI scans faster.
- ◉ Medical professionals need a way to immediately identify likely cancer cases from MRI scans in order to give priority to patients that may be more likely to have cancer, such that their case can be quickly reviewed for diagnosis by a pathologist.

  Correct
  Top work! This is a good problem definition, as it tells what the problem is, who some of the key stakeholders are, and gives some indication of what a successful outcome would look like.

7. Will AI add value as part of a potential solution for the MRI scan problem defined above? 1 / 1 point

- ◉ AI may be a good choice for the problem, but you need to first assess the available data to see whether your project could benefit from an AI approach.
- ○ Yes. AI is always a strong choice when solving problems related to medical imaging.
- ○ No. AI does not bring any value when solving problems related to medical imaging, because these problems are too challenging.

  Correct
  That’s right! Remember that data quality and quantity is an important feature when considering if AI could add value to a project.

8. For the medical imaging scenario described above, who might be some of the relevant stakeholders? Select all that apply. **1 / 1 point**

- [x] Potentially others, like representatives or technicians from the company that produces the MRI machines, or stakeholders you have yet to identify.

  Correct
  Excellent! While your project may have a few obvious stakeholders, it's possible you will discover others through your exploration of the project or even later in development.

- [x] Doctors, nurses, and other staff responsible for working with patients, running the MRI machine, recording images, and sending those images on for diagnosis from a pathologist.

  Correct
  Yes, they would be the users of your system.

- [x] Patients receiving MRI scans

  Correct
  That's right! Your system will have an impact on how patients receive their results so they certainly have a stake in this project.

- [x] Pathologists evaluating MRI scans.

  Correct
  Top work! Your project would change the workflow for pathologists so they are definitely stakeholders.

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9. For the medical imaging scenario described above, suppose you have met with all the appropriate stakeholders, determined that you have access to the required data for the project, and that AI could likely add value. What are some of the steps you need to take in the next project phase (design phase)? Select all that apply. **1 / 1 point**

- [x] Ensure that you have the appropriate methods in place to work with the medical imaging data securely and that you're not unnecessarily storing personally identifying information.

  Correct
  That's right! This is a recommended step in the design phase.

- [x] Explore your data further and prototype a method for identifying likely cancer cases in MRI scans.

  Correct
  That's right! This is a recommended step in the design phase.

- [ ] Define the problem you're going to work on.
- [x] Design the way in which end users will interact with your system, in this case, everything from the step of receiving a new MRI scan to analyzing and ultimately prioritizing that scan in the queue for review by a pathologist.

  Correct
  That's right! This is a recommended step in the design phase.

- [ ] Test your system with end users to verify whether they are able to interact with your system successfully.

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10. Suppose for the medical imaging scenario above, you have obtained a large collection of patient records, which include personal information and you got all the right permissions for your use case. Let's assume you have trained your algorithms, deployed your system, and you do not need this data anymore. What should you do with the data? **1 / 1 point**

- ( ) Since your algorithms perform very well, you want to share the results with the community. You can publish your results in a journal and you can include the data, because you are publishing it for a good cause.
- (•) Since you don't need this data anymore, you should delete it as it includes personal information.
- ( ) You should store the data securely, just in case you or someone else needs it for a later project.

  Correct
  Great job! Storing any personal information, even if it was publicly available before that, may in some way later be harmful to the people involved.