

CS456 Homework Assignment 4

Due date: _____

In the real world, your ideas and your work must be communicated effectively to your boss, to your client, and to potential investors. Therefore, **please use succinct but clear and well-written English for your answers (as if I was your boss). Incidentally, your boss expects typewritten reports, and so do I.** Drawings should be neatly done with an appropriate software program.

Problem #1: (10 points) Remember the East Africa problem from homework #3? You supplied me with a class diagram and code outline. Now draw a use case diagram for the East Africa problem. Specify one or more actors, use cases, etc. *Please include the class diagram (with improvements if you made any).*

Note: This is not an opportunity to invent fiction. Your use case scenarios must be something that can really be done by your code. And the actors must be realistic users of your code, as specified by the problem. Refer to your class diagram if you are uncertain about what your code can really do.

Problem #2: (20 points) Now assume that one of the World Wildlife Federation (WWF) employees is using your code. In particular assume that the WWF employee is doing *one* of your use cases (pick any *one* use case scenario of your choice).

- (a) Draw a sequence diagram for their interaction with your code.
- (b) Draw a collaboration diagram for their interaction with your code.

Please include the class diagram (with improvements if you made any).

Note: Please use the same use case scenario for both the collaboration and sequence diagram. And again, this is NOT an opportunity to invent fiction. Your diagrams should map out real methods that have been included as part of your class diagram (or at the very least, could have been included as part of your class diagram).

Note: If you are uncertain that your class diagram and code outline are up to the task, come see me early in the week. We will look at your previous assignment.

Problem #3: (10 points) Were both the collaboration and sequence diagrams necessary to describe the interaction? Would presenting both diagrams at an office meeting clarify your case, or make your boss think you

were confused? Please write a quarter page summary that answers these questions and supports your point of view.

The WWF is monitoring endangered species in East Africa. East Africa is composed of the following nations: Somalia, Ethiopia, Kenya, Tanzania, Rwanda, Uganda, Burundi, Malawi, and Mozambique. Only Kenya and Tanzania are politically stable, but crime and corruption is high in both and may push Kenya into political instability. Zanzibar is part of Tanzania but may soon seek political independence, pushing Tanzania into war and instability. Tourists still visit politically stable countries. Endangered species are threatened by political instability because tourists stop visiting and fewer tourist dollars are available for conservation efforts.