This assignment will provide an opportunity to update previously developed models (e.g., use case and domain models) and create new models (e.g., sequence diagrams, KAOS model).

You will first identify and describe security concerns, and then specify corresponding system requirements to address these security concerns. Add these security requirements to your system requirements (in the SRS). And then create one KAOS goal model that includes all of the requirements. (Note that you will need to introduce higher-level goals that can be refined down to your requirements. Example high-level goal: ```Prevent backup rollover accidents.```) Be sure to perform goal refinement until all of the requirements can be discharged to one or more agents.

The assignment includes the following items:

1. **Security and PBAS.** Develop a document that describes what kind of security concerns potentially affect the PBAS system. Give at least 2 security concerns.
   a. For each security concern, give the asset, threat, and risk.
   b. Propose an approach to detect and mitigate the respective security threats. Be detailed in your proposed approaches. Give concrete scenarios for when the threat occurs, including environmental conditions, system state, etc. Describe in detail the specific threat.
   c. Then give *sufficient details* about the detection and mitigation strategies that such an approach can be modeled in UML and goal models. Then develop your KAOS goal model to include the functional objectives and these security threats (depicted as obstacles), and include the corresponding mitigation strategies.

2. **Updating the SRS with security-based requirements**
   a. Update your list of PBAS requirements to include the security requirements.
   b. Update your use case diagram and domain model with the new security requirements including any additional elements necessitated by the security concerns.
   c. Create one sequence diagram for each type of security concern that your system can now handle with the new security requirements. (You should include “normal” scenario and scenarios that encounter malicious conditions.)
d. Update your PBAS documentation to include the new security concerns/requirements and the corresponding changes to the existing diagrams. Also, include descriptions of the new diagrams introduced with this assignment.

3. Update SRS to include the new artifacts. If you are changing existing portions of the SRS to accommodate the security-related requirements, highlight them in red (be sure to submit both the Doc and the PDF versions of your SRS document).

**Assignment Deliverables**

The deliverables for this assignment include the following:

1. Description of security concerns for PBAS that satisfy the Items 1(a)-(c).

2. Updated SRS for your PBAS system describing Items 2(a)-(d) with complete citations and references included. The report should be self-contained, explaining the objective of the report and the major findings. (You should use the document submitted for Homework #4 as the basis for this technical document.) Submit electronic copy to Instructor.