

User story and Usecases for Missile launching system

Story:

The three wing chiefs, i.e., Army, Navy and Airforce chiefs will communicate with the President who would finally have the authority to launch the missile. The President would also ask about the time of launch and target location of the missile.

Develop such a system which will do this task of secure communication between all the entities and launches the missile.

Constraints:

1. All the three heads should be authenticated.
 2. Target and time of launch should be fixed.
 3. Facility to abort should be present.
 4. Communication is done through open channel.
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Use case 1

Name : User authentication
Description : System will authenticate the users
Primary Actor : User - each of the 3 chiefs
Pre-condition : User should have credentials
Post-condition : User is authenticated successfully
Basic flow

1. User provides login credentials to the system
2. System will authenticate the user

Alternate flow

- 1.a User provides wrong credentials
- 2.a System shows error message

Use case 2

Name : System configuration
Description : Users will enter data and set up the system
Primary actor : Users
Pre-condition : Users are authenticated
All Users are online
Post-condition : System is setup to launch the missile

Basic flow

1. Users ask system for the missile status
2. System responds if the missile is in operational mode
3. Users will provide the location of the target in non-intelligent form in the open channel
4. All 3 users together would setup the system

Alternate-flow

- 2.1 Missile not operational
- 2.1a Abort the mission

Use case 3

Name : System verification
Description : Verification of integrity of the system
Primary actor : Users
Pre-condition : System is configured
Post-condition : System is VERIFIED
Basic flow

1. User will ask for system verification
2. Security module will verify the integrity of the messages and system
3. System status is updated as "VERIFIED"

Alternate flow

- 2.1 Information is tampered
- 2.1a Reset the system

Use case 4

Name : Missile launch
Description : Missile will be launched by the president
Primary actor : President
Pre-condition : Missile is setup and ready to launch
System is VERIFIED
Post-condition : Missile launched successfully

Basic flow

1. President will unlock the physical security
2. System will show details of launch and options to choose
3. President will choose to launch the missile
4. Operation is completed

Alternate flow

- 3.1 President choses to cancel
- 3.1a Launch is cancelled

Usecase diagram

