

# Misuse Cases: Use Cases with Hostile Intent

Ian Alexander

*IEEE Software 20(1), 58-66, Jan/Feb 2003.*

"Humans have [long] analyzed negative scenarios... Modern systems engineers can employ a misuse case – the negative form of a use case – to document and analyze such scenarios."

Presented by: Johnny Sia

## Summary

- A misuse case helps to analyze negative scenarios by showing the "point of view of an actor" which is hostile to the system under design.
- Use and misuse cases employed together, are valuable in
  - Threat and hazard analysis
  - System design
  - Eliciting requirements
  - Generating test cases

## Appreciative Comment

- The author applies misuse-case analysis to a broad number of scenarios ranging from car theft security, car safety requirements to web portal security.

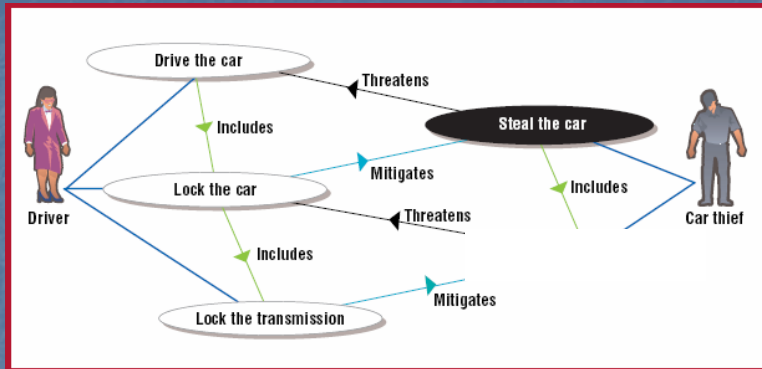
The author also shows that 'hostile actors' are not limited to frustrated users, thieves, hackers; but even includes negative agents such as the failure of devices like car brakes and inanimate external forces such as dangerous weather.

Perhaps a misuse-case analysis could be applied in any scenario with any type of actor.

## Appreciative Comment

- The author turns the elicitation of requirements into a game. The author believes this makes the search more enjoyable and I believe it leads to increased productivity.
  - "A team's best strategy consists of thinking ahead to the other team's best move and acting to block it".

## The 'what if' game



- If you don't play the game, you probably wouldn't understand why we have the requirement of locking the transmission

## Critical Comment

- The author claims that use/misuse-case analysis is promising and encourage their use; however no discussion is given as to who is suitable or what a security engineer needs in order to be successful in employing a misuse-case analysis.
  - "Humans have [long] analyzed negative scenarios"
    - is misuse case analysis natural to humans?
  - "Modern systems engineer can employ a misuse case"
    - how do you become 'modern'?

## Question for discussion

- We have seen how advantageous it is to introduce misuse cases during system design to think ahead and mitigate threats that could harm the system.
- If you were a car thief, could you and how would you use a misuse-case analysis to help steal a car?