

# Management Smart Contract Vulnerabilities

Compilation warnings/errors on Management.sol:

--> Management.sol:290:1:

|

290 | contract Management is ReentrancyGuard{

| ^ (Relevant source part starts here and spans across multiple lines).

Reentrancy in Management.purchaseBatteryLot(uint256) (Management.sol#657-669):

External calls:

- BatteriesLOT.transferFrom(address(this),msg.sender,BLot.LotID) (Management.sol#663)

State variables written after the call(s):

- BLot.Owner = address(msg.sender) (Management.sol#667)

Reentrancy in Management.purchaseESControllerLot(uint256) (Management.sol#792-803):

External calls:

- EScontrollersLOT.transferFrom(address(this),msg.sender,ESCLot.LotID) (Management.sol#798)

State variables written after the call(s):

- ESCLot.Owner = address(msg.sender) (Management.sol#801)

Reentrancy in Management.purchaseFControllerLot(uint256) (Management.sol#758-770):

External calls:

- FcontrollersLOT.transferFrom(address(this),msg.sender,FCLot.LotID) (Management.sol#764)

State variables written after the call(s):

- FCLot.Owner = address(msg.sender) (Management.sol#768)

Reentrancy in Management.purchaseMotorLot(uint256) (Management.sol#691-702):

External calls:

- MotorsLOT.transferFrom(address(this),msg.sender,MLot.LotID) (Management.sol#697)

State variables written after the call(s):

- MLOT.Owner = address(msg.sender) (Management.sol#701)

Reentrancy in Management.purchasePropellerLot(uint256) (Management.sol#724-736):

External calls:

- PropellersLOT.transferFrom(address(this),msg.sender,PLot.LotID) (Management.sol#730)

State variables written after the call(s):

- PLOT.Owner = address(msg.sender) (Management.sol#734)

Reference: <https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-1>

Reentrancy in Management.assembleDrone(uint256,uint256,uint256,uint256,uint256,string)  
(Management.sol#818-846):

External calls:

- batteriesSC.transferFrom(msg.sender,address(this),battery.componentID) (Management.sol#827)
- motorsSC.transferFrom(msg.sender,address(this),motor.componentID) (Management.sol#828)
- propellersSC.transferFrom(msg.sender,address(this),propeller.componentID)  
(Management.sol#829)
- fcontrollerSC.transferFrom(msg.sender,address(this),fcontroller.componentID)  
(Management.sol#830)
- escontrollerSC.transferFrom(msg.sender,address(this),escontroller.componentID)  
(Management.sol#831)

State variables written after the call(s):

- dronesCount ++ (Management.sol#833)

Reentrancy in Management.assembleDrone(uint256,uint256,uint256,uint256,uint256,string)  
(Management.sol#818-846):

External calls:

- batteriesSC.transferFrom(msg.sender,address(this),battery.componentID) (Management.sol#827)
- motorsSC.transferFrom(msg.sender,address(this),motor.componentID) (Management.sol#828)
- propellersSC.transferFrom(msg.sender,address(this),propeller.componentID)  
(Management.sol#829)
- fcontrollerSC.transferFrom(msg.sender,address(this),fcontroller.componentID)  
(Management.sol#830)
- escontrollerSC.transferFrom(msg.sender,address(this),escontroller.componentID)  
(Management.sol#831)
- (tokenID,tokenURI) = Drone.mint(\_tokenURI,msg.sender) (Management.sol#835)

State variables written after the call(s):

- DronesMapping[dronesCount] =  
DroneDetails(dronesCount,tokenID,tokenURI,address(Drone),\_batteryID,\_motorID,\_propellerID,\_fcontrol  
lerID,\_escontrollerID,address(msg.sender)) (Management.sol#
- linkComponenttoDrone[dronesCount][address(batteriesSC)] = battery.componentID  
(Management.sol#838)
- linkComponenttoDrone[dronesCount][address(motorsSC)] = motor.componentID  
(Management.sol#839)
- linkComponenttoDrone[dronesCount][address(propellersSC)] = propeller.componentID  
(Management.sol#840)

- linkComponenttoDrone[dronesCount][address(fcontrollerSC)] = fcontroller.componentID  
(Management.sol#841)

- linkComponenttoDrone[dronesCount][address(escontrollerSC)] = escontroller.componentID  
(Management.sol#842)

Reentrancy in Management.createBatteryLot(uint256[3],string) (Management.sol#558-573):

External calls:

- batteriesSC.transferFrom(msg.sender,address(this),\_tokenIDs[i\_scope\_0]) (Management.sol#564)

State variables written after the call(s):

- batteriesCount ++ (Management.sol#565)

- batteriesMapping[batteriesCount] =  
ComponentDetails(batteriesCount,\_tokenIDs[i\_scope\_0],IERC721(batteriesSC),address(msg.sender))  
(Management.sol#566)

Reentrancy in Management.createESControllerLot(uint256[3],string) (Management.sol#627-642):

External calls:

- escontrollerSC.transferFrom(msg.sender,address(this),\_tokenIDs[i\_scope\_0])  
(Management.sol#633)

State variables written after the call(s):

- esControllersCount ++ (Management.sol#634)

- esControllersMapping[esControllersCount] =  
ComponentDetails(esControllersCount,\_tokenIDs[i\_scope\_0],IERC721(escontrollerSC),address(msg.sender)) (Management.sol#635)

Reentrancy in Management.createFControllerLot(uint256[3],string) (Management.sol#610-625):

External calls:

- fcontrollerSC.transferFrom(msg.sender,address(this),\_tokenIDs[i\_scope\_0]) (Management.sol#616)

State variables written after the call(s):

- fControllersCount ++ (Management.sol#617)

- fControllersMapping[fControllersCount] =  
ComponentDetails(fControllersCount,\_tokenIDs[i\_scope\_0],IERC721(fcontrollerSC),address(msg.sender))  
(Management.sol#618)

Reentrancy in Management.createMotorLot(uint256[3],string) (Management.sol#575-590):

External calls:

- motorsSC.transferFrom(msg.sender,address(this),\_tokenIDs[i\_scope\_0]) (Management.sol#581)

State variables written after the call(s):

- motorsCount ++ (Management.sol#582)

- motorsMapping[motorsCount] =

ComponentDetails(motorsCount,\_tokenIDs[i\_scope\_0],IERC721(motorsSC),address(msg.sender))  
(Management.sol#583)

Reentrancy in Management.createPropellerLot(uint256[3],string) (Management.sol#592-608):

External calls:

- propellersSC.transferFrom(msg.sender,address(this),\_tokenIDs[i\_scope\_0]) (Management.sol#598)

State variables written after the call(s):

- propellersCount ++ (Management.sol#599)

- propellersMapping[propellersCount] =

ComponentDetails(propellersCount,\_tokenIDs[i\_scope\_0],IERC721(propellersSC),address(msg.sender))  
(Management.sol#600)

Reentrancy in Management.listBatteryLot(uint256,uint256) (Management.sol#647-654):

External calls:

- BatteriesLOT.transferFrom(msg.sender,address(this),\_tokenId) (Management.sol#648)

State variables written after the call(s):

- batteriesLotCount ++ (Management.sol#649)

- batteriesLotMapping[batteriesLotCount] =

LotDetails(batteriesLotCount,\_tokenId,address(BatteriesLOT),\_listingprice \*  
1000000000000000000,address(msg.sender)) (Management.sol#650)

Reentrancy in Management.listESControllerLot(uint256,uint256) (Management.sol#782-789):

External calls:

- EScontrollersLOT.transferFrom(msg.sender,address(this),\_tokenId) (Management.sol#783)

State variables written after the call(s):

- esControllersLotCount ++ (Management.sol#784)

- esControllersLotMapping[esControllersLotCount] =

LotDetails(esControllersLotCount,\_tokenId,address(EScontrollersLOT),\_listingprice \*  
1000000000000000000,address(msg.sender)) (Management.s

Reentrancy in Management.listFControllerLot(uint256,uint256) (Management.sol#748-755):

External calls:

- FcontrollersLOT.transferFrom(msg.sender,address(this),\_tokenId) (Management.sol#749)

State variables written after the call(s):

- fControllersLotCount ++ (Management.sol#750)

- fControllersLotMapping[fControllersLotCount] =  
LotDetails(fControllersLotCount,\_tokenId,address(FcontrollersLOT),\_listingprice \*  
1000000000000000000,address(msg.sender)) (Management.sol#7

Reentrancy in Management.listMotorLot(uint256,uint256) (Management.sol#681-688):

External calls:

- MotorsLOT.transferFrom(msg.sender,address(this),\_tokenId) (Management.sol#682)

State variables written after the call(s):

- motorsLotCount ++ (Management.sol#683)

- motorsLotMapping[motorsLotCount] =  
LotDetails(motorsLotCount,\_tokenId,address(MotorsLOT),\_listingprice \*  
1000000000000000000,address(msg.sender)) (Management.sol#684)

Reentrancy in Management.listPropellerLot(uint256,uint256) (Management.sol#714-721):

External calls:

- PropellersLOT.transferFrom(msg.sender,address(this),\_tokenId) (Management.sol#715)

State variables written after the call(s):

- propellersLotCount ++ (Management.sol#716)

- propellersLotMapping[propellersLotCount] =  
LotDetails(propellersLotCount,\_tokenId,address(PropellersLOT),\_listingprice \*  
1000000000000000000,address(msg.sender)) (Management.sol#717)

Reentrancy in Management.redeemBatteries(uint256) (Management.sol#671-679):

External calls:

- BatteriesLOT.transferFrom(msg.sender,address(this),BLot.LotID) (Management.sol#674)

- batteriesSC.safeTransferFrom(address(this),msg.sender,linkBatterytoLot[BLot.LotID][i])  
(Management.sol#676)

State variables written after the call(s):

- batteriesMapping[linkBatterytoLot[BLot.LotID][i]].Owner = address(msg.sender)  
(Management.sol#677)

Reentrancy in Management.redeemESControllers(uint256) (Management.sol#805-813):

External calls:

- EScontrollersLOT.transferFrom(msg.sender,address(this),ESCLot.LotID) (Management.sol#808)

- escontrollerSC.safeTransferFrom(address(this),msg.sender,linkESControllertoLot[ESCLot.LotID][i])  
(Management.sol#810)

State variables written after the call(s):

- esControllersMapping[linkESControllertoLot[ESCLot.LotID][i]].Owner = address(msg.sender)  
(Management.sol#811)

Reentrancy in Management.redeemFControllers(uint256) (Management.sol#772-780):

External calls:

- FcontrollersLOT.transferFrom(msg.sender,address(this),FCLot.LotID) (Management.sol#775)  
- fcontrollerSC.safeTransferFrom(address(this),msg.sender,linkFControllertoLot[FCLot.LotID][i])  
(Management.sol#777)

State variables written after the call(s):

- fControllersMapping[linkFControllertoLot[FCLot.LotID][i]].Owner = address(msg.sender)  
(Management.sol#778)

Reentrancy in Management.redeemMotors(uint256) (Management.sol#704-712):

External calls:

- MotorsLOT.transferFrom(msg.sender,address(this),MLot.LotID) (Management.sol#707)  
- motorsSC.safeTransferFrom(address(this),msg.sender,linkMotortoLot[MLot.LotID][i])  
(Management.sol#709)

State variables written after the call(s):

- motorsMapping[linkMotortoLot[MLot.LotID][i]].Owner = address(msg.sender)  
(Management.sol#710)

Reentrancy in Management.redeemPropellers(uint256) (Management.sol#738-746):

External calls:

- PropellersLOT.transferFrom(msg.sender,address(this),PLot.LotID) (Management.sol#741)  
- propellersSC.safeTransferFrom(address(this),msg.sender,linkPropellertoLot[PLot.LotID][i])  
(Management.sol#743)

State variables written after the call(s):

- propellersMapping[linkPropellertoLot[PLot.LotID][i]].Owner = address(msg.sender)  
(Management.sol#744)

Reference: <https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-2>

Reentrancy in Management.assembleDrone(uint256,uint256,uint256,uint256,uint256,string)  
(Management.sol#818-846):

External calls:

- batteriesSC.transferFrom(msg.sender,address(this),battery.componentID) (Management.sol#827)
- motorsSC.transferFrom(msg.sender,address(this),motor.componentID) (Management.sol#828)
- propellersSC.transferFrom(msg.sender,address(this),propeller.componentID)  
(Management.sol#829)
- fcontrollerSC.transferFrom(msg.sender,address(this),fcontroller.componentID)  
(Management.sol#830)
- escontrollerSC.transferFrom(msg.sender,address(this),escontroller.componentID)  
(Management.sol#831)
- (tokenID,tokenURI) = Drone.mint(\_tokenURI,msg.sender) (Management.sol#835)

Event emitted after the call(s):

-

DroneAssembled(dronesCount,tokenID,tokenURI,battery.componentID,motor.componentID,propeller.componentID,fcontroller.componentID,escontroller.componentID,msg.sender) (Management.sol#844)

Reentrancy in Management.createBatteryLot(uint256[3],string) (Management.sol#558-573):

External calls:

- (tokenID,tokenURI) = BatteriesLOT.mint(\_tokenURI,\_tokenIDs,msg.sender) (Management.sol#569)

Event emitted after the call(s):

- BatteryLotCreated(msg.sender,tokenID,tokenURI) (Management.sol#571)

Reentrancy in Management.createESControllerLot(uint256[3],string) (Management.sol#627-642):

External calls:

- (tokenID,tokenURI) = EScontrollersLOT.mint(\_tokenURI,\_tokenIDs,msg.sender)  
(Management.sol#638)

Event emitted after the call(s):

- ESControllerLotCreated(msg.sender,tokenID,tokenURI) (Management.sol#640)

Reentrancy in Management.createFControllerLot(uint256[3],string) (Management.sol#610-625):

External calls:

- (tokenID,tokenURI) = FcontrollersLOT.mint(\_tokenURI,\_tokenIDs,msg.sender)  
(Management.sol#621)

Event emitted after the call(s):

- FControllerLotCreated(msg.sender,tokenID,tokenURI) (Management.sol#623)



Reentrancy in Management.createMotorLot(uint256[3],string) (Management.sol#575-590):

External calls:

- (tokenID,tokenURI) = MotorsLOT.mint(\_tokenURI,\_tokenIDs,msg.sender) (Management.sol#586)

Event emitted after the call(s):

- MotorLotCreated(msg.sender,tokenID,tokenURI) (Management.sol#588)

Reentrancy in Management.createPropellerLot(uint256[3],string) (Management.sol#592-608):

External calls:

- (tokenID,tokenURI) = PropellersLOT.mint(\_tokenURI,\_tokenIDs,msg.sender) (Management.sol#604)

Event emitted after the call(s):

- PropellerLotCreated(msg.sender,tokenID,tokenURI) (Management.sol#606)

Reentrancy in Management.listBatteryLot(uint256,uint256) (Management.sol#647-654):

External calls:

- BatteriesLOT.transferFrom(msg.sender,address(this),\_tokenID) (Management.sol#648)

Event emitted after the call(s):

- BatteryLOTListed(batteriesLotCount,address(BatteriesLOT),\_tokenID,\_listingprice,msg.sender)  
(Management.sol#652)

Reentrancy in Management.listESControllerLot(uint256,uint256) (Management.sol#782-789):

External calls:

- EScontrollersLOT.transferFrom(msg.sender,address(this),\_tokenID) (Management.sol#783)

Event emitted after the call(s):

-

ESControllerLOTListed(esControllersLotCount,address(EScontrollersLOT),\_tokenID,\_listingprice,msg.sender)  
(Management.sol#787)

Reentrancy in Management.listFControllerLot(uint256,uint256) (Management.sol#748-755):

External calls:

- FcontrollersLOT.transferFrom(msg.sender,address(this),\_tokenID) (Management.sol#749)

Event emitted after the call(s):

-

FControllerLOTListed(fControllersLotCount,address(FcontrollersLOT),\_tokenID,\_listingprice,msg.sender)  
(Management.sol#753)

Reentrancy in Management.listMotorLot(uint256,uint256) (Management.sol#681-688):

External calls:

- MotorsLOT.transferFrom(msg.sender,address(this),\_tokenId) (Management.sol#682)

Event emitted after the call(s):

- MotorLOTListed(motorsLotCount,address(MotorsLOT),\_tokenId,\_listingprice,msg.sender)  
(Management.sol#686)

Reentrancy in Management.listPropellerLot(uint256,uint256) (Management.sol#714-721):

External calls:

- PropellersLOT.transferFrom(msg.sender,address(this),\_tokenId) (Management.sol#715)

Event emitted after the call(s):

- PropellerLOTListed(propellersLotCount,address(PropellersLOT),\_tokenId,\_listingprice,msg.sender)  
(Management.sol#719)

Reentrancy in Management.purchaseBatteryLot(uint256) (Management.sol#657-669):

External calls:

- BatteriesLOT.transferFrom(address(this),msg.sender,BLot.LotID) (Management.sol#663)

Event emitted after the call(s):

- BatteryLOTPurchased(batteriesLotCount,address(BatteriesLOT),BLot.LotID,msg.sender,BLot.Owner)  
(Management.sol#665)

Reentrancy in Management.purchaseESControllerLot(uint256) (Management.sol#792-803):

External calls:

- EScontrollersLOT.transferFrom(address(this),msg.sender,ESCLot.LotID) (Management.sol#798)

Event emitted after the call(s):

-

ESControllerLOTPurchased(esControllersLotCount,address(EScontrollersLOT),ESCLot.LotID,msg.sender,ESCLot.Owner) (Management.sol#800)

Reentrancy in Management.purchaseFControllerLot(uint256) (Management.sol#758-770):

External calls:

- FcontrollersLOT.transferFrom(address(this),msg.sender,FCLot.LotID) (Management.sol#764)

Event emitted after the call(s):

-

FControllerLOTPurchased(fControllersLotCount,address(FcontrollersLOT),FCLot.LotID,msg.sender,FCLot.Owner) (Management.sol#766)

Reentrancy in Management.purchaseMotorLot(uint256) (Management.sol#691-702):

External calls:

- MotorsLOT.transferFrom(address(this),msg.sender,MLot.LotID) (Management.sol#697)

Event emitted after the call(s):

- MotorLOTPurchased(motorsLotCount,address(MotorsLOT),MLot.LotID,msg.sender,MLot.Owner) (Management.sol#699)

Reentrancy in Management.purchasePropellerLot(uint256) (Management.sol#724-736):

External calls:

- PropellersLOT.transferFrom(address(this),msg.sender,PLot.LotID) (Management.sol#730)

Event emitted after the call(s):

-

PropellerLOTPurchased(propellersLotCount,address(PropellersLOT),PLot.LotID,msg.sender,PLot.Owner) (Management.sol#732)

Reference: <https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-3>

Management.sol analyzed (10 contracts with 81 detectors), 38 result(s) found