

Auctions Eleven: Kernel Panic

Analysis Phase

- Introduction
- Part I: Static Models
- <break>
- Part II: Dynamic Models

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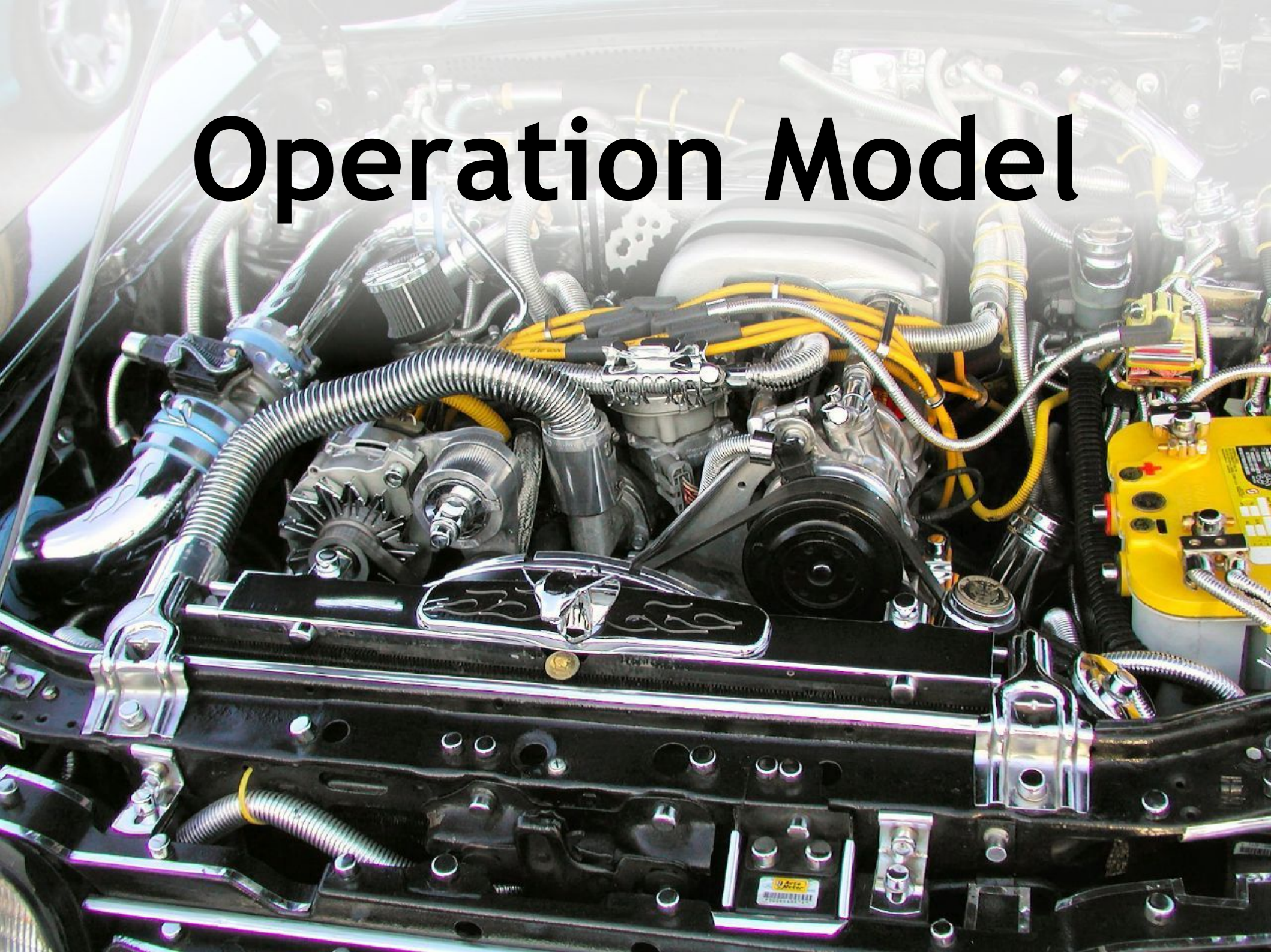
Part II: **Dynamic Models**

Operation Model

Protocol Model

Example

Operation Model



Operation Model

Server::bidForCurrentArticle() I

Description:

The server handles a bid request which he received from a client.

Pre: [...] -- ensure that an auction is running

Post: self.sellHandler.currentPrice =
self.sellHandler.currentPrice@pre * 1.1 AND
self.sellHandler.highestBidder = sender AND
...

Operation Model

Server::bidForCurrentArticle() II

...

self.sellHandler.hammerStrikes = 0 AND

sender^bidNoted() AND

self.auction.client->forAll(c |

 c^notifyBid(self.sellHandler.currentPrice)) AND

self.auction.admin^notifyBid(sellHandler.currentPrice)

Operation Model

Server::poundHammer() I

Description:

The server handles hammerpound from admin.

Pre: [...] -- ensure that an auction is running and
number of hammerstrikes < 3

Post: if (self.sellHandler.hammerStrikes@pre < 2) then
self.sellHandler.hammerStrikes =
self.sellHandler.hammerStrikes@pre + 1 AND
self.auction.client->forAll(c | c^hammerPound())
else ...

Operation Model

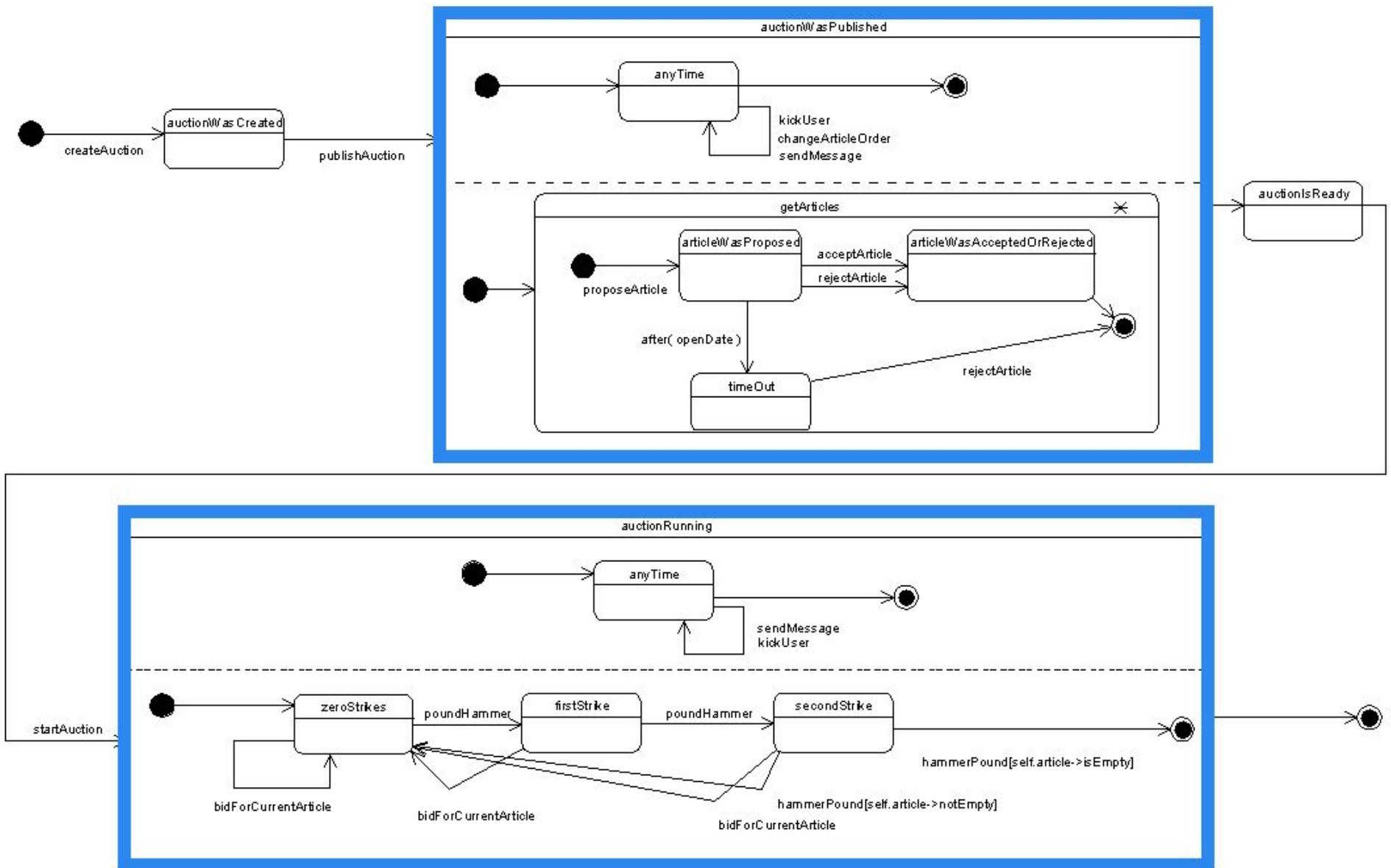
Server::poundHammer() II

```
self.sellHandler.highestBidder^articleAcquired(  
  self.sellHandler.article@pre) AND  
self.auction.client->forAll(c | c^finalHammerPound())  
AND self.auction.article = self.auction.article@pre  
  ->excluding(self.sellHandler.article@pre)  
[...] -- link self.sellHandler.article to next article  
[...] -- initialize the attributs of self.sellHandler
```

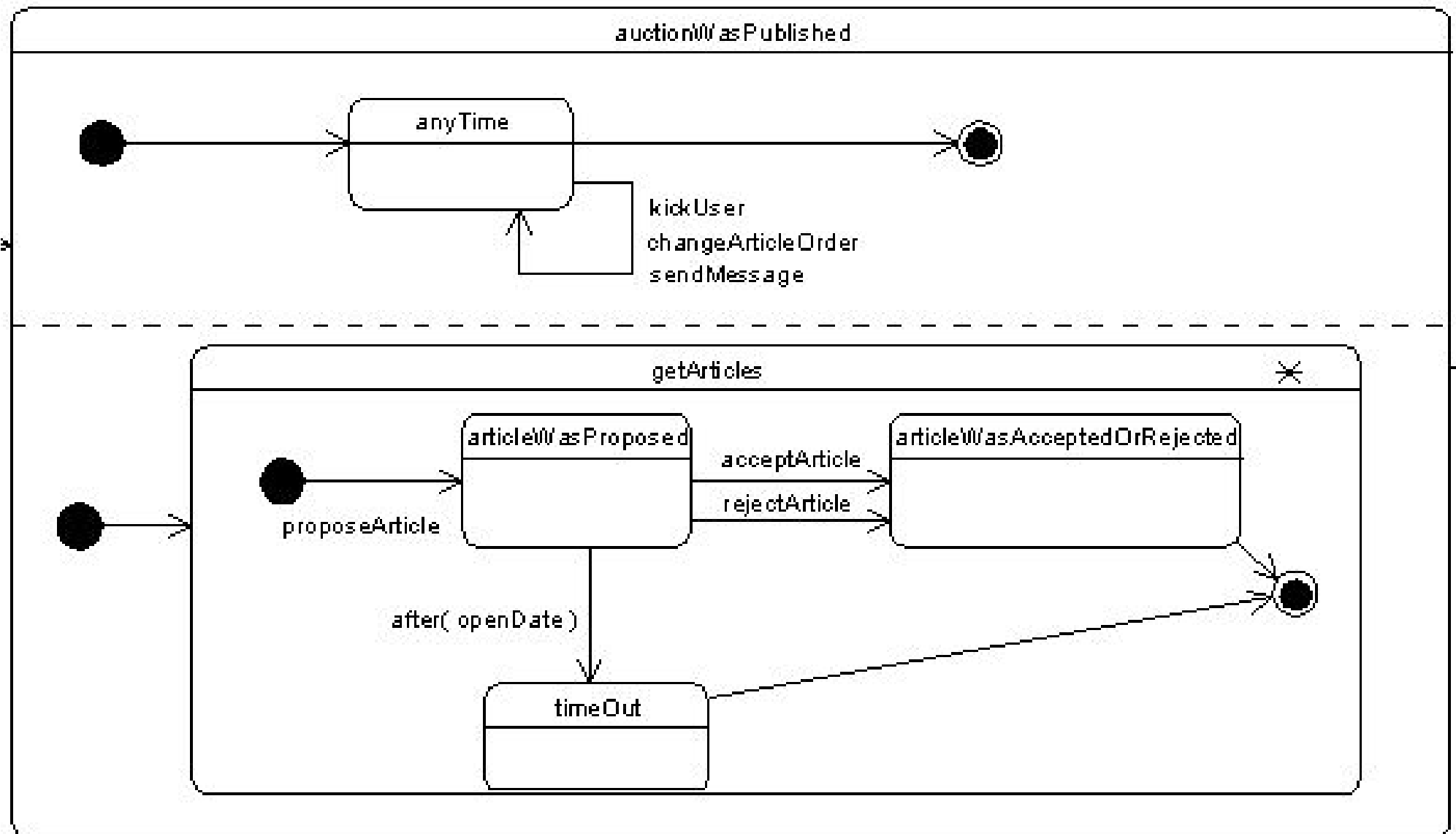
Protocol Model



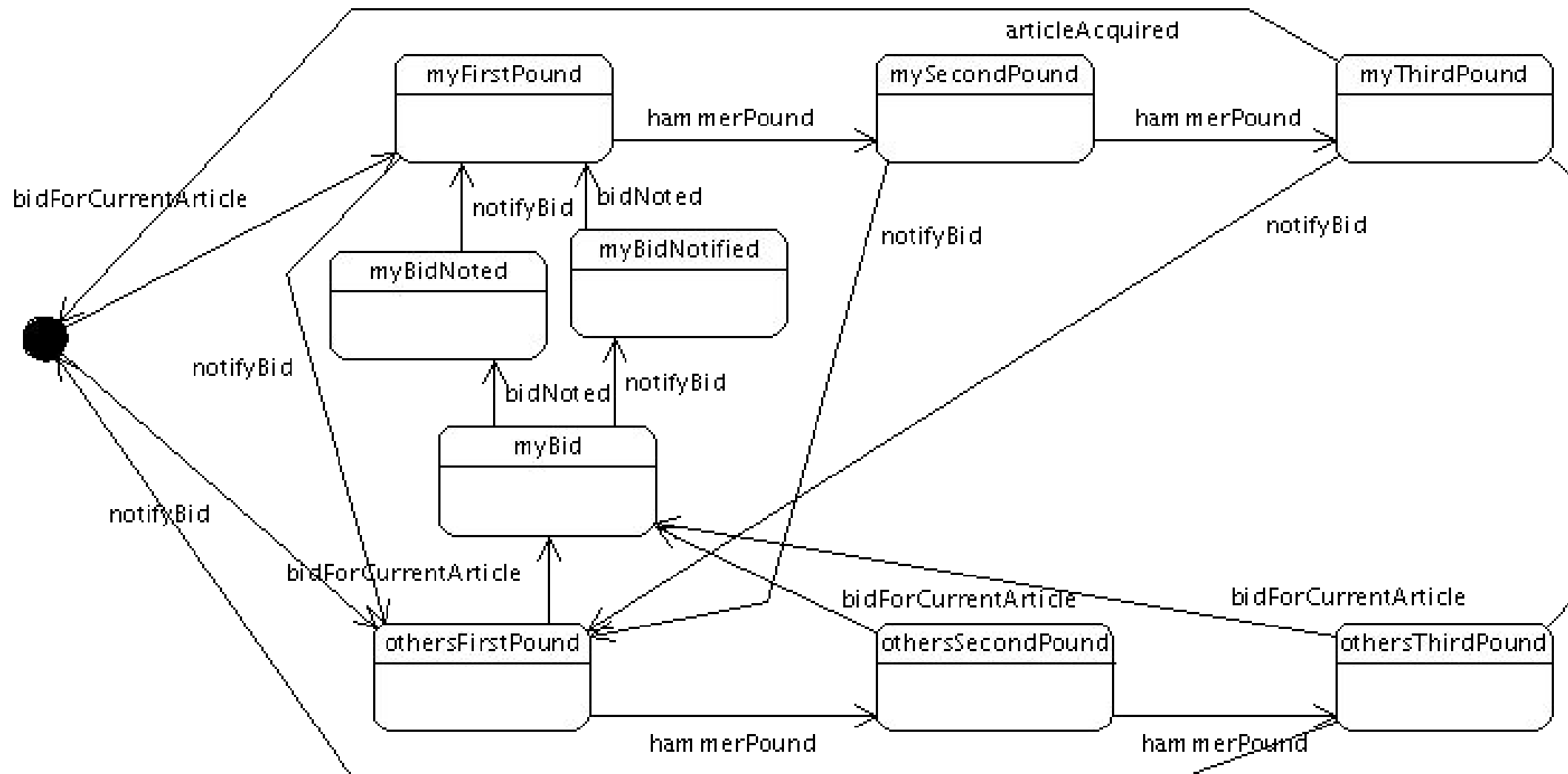
Protocol Model Server I



Protocol Model Server II



Protocol Model Client



Example: Buy an article

Message from User to Client:

bidForCurrentArticle()

Messages from Admin to Server:

hammerPound()

hammerPound()

hammerPound()

Questions?

