

# **Cyber security games and CyBOK**

*What we did;  
what we learned;  
and advice for other people mapping things.*



**We like using CyBOK  
as a basis for comparing  
cyber security content**



**There are games  
that aim to teach  
cyber security  
ideas...**



**Lets map them  
onto CyBOK!**



## Elevation of Privilege



[d0x3d!]

# Three games

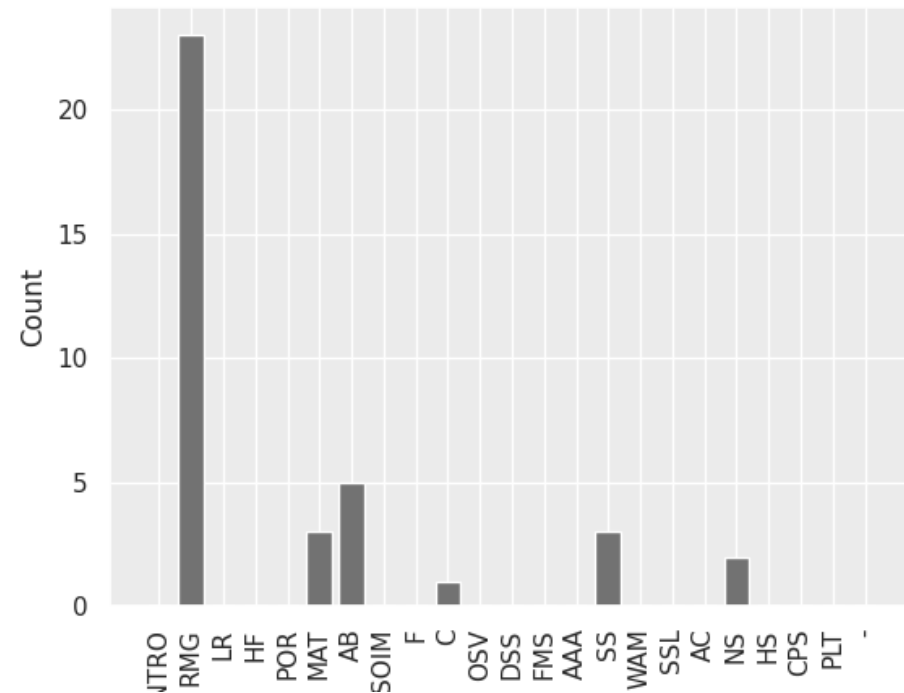


Decisions and Disruptions

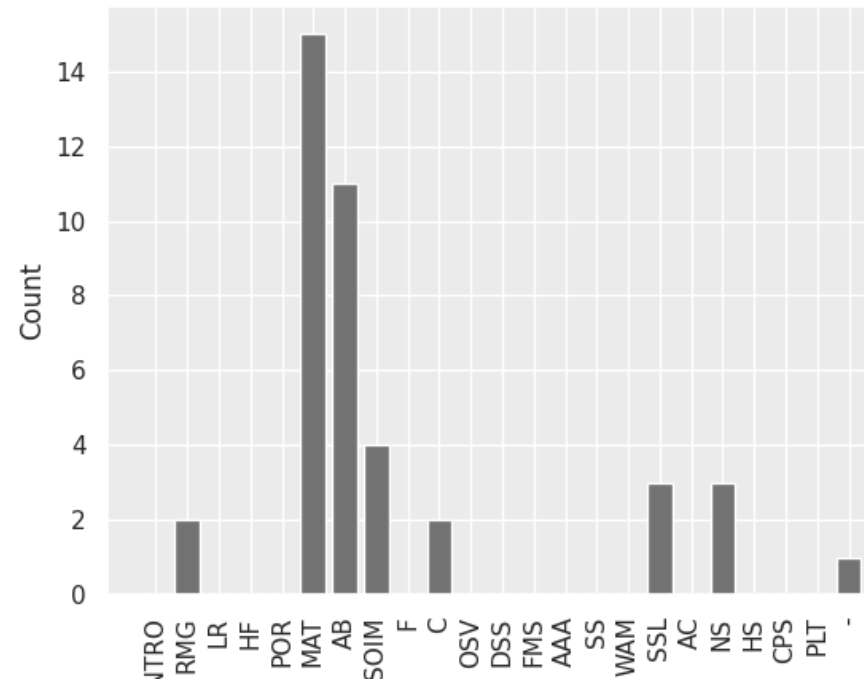


# ...and off you go and map them

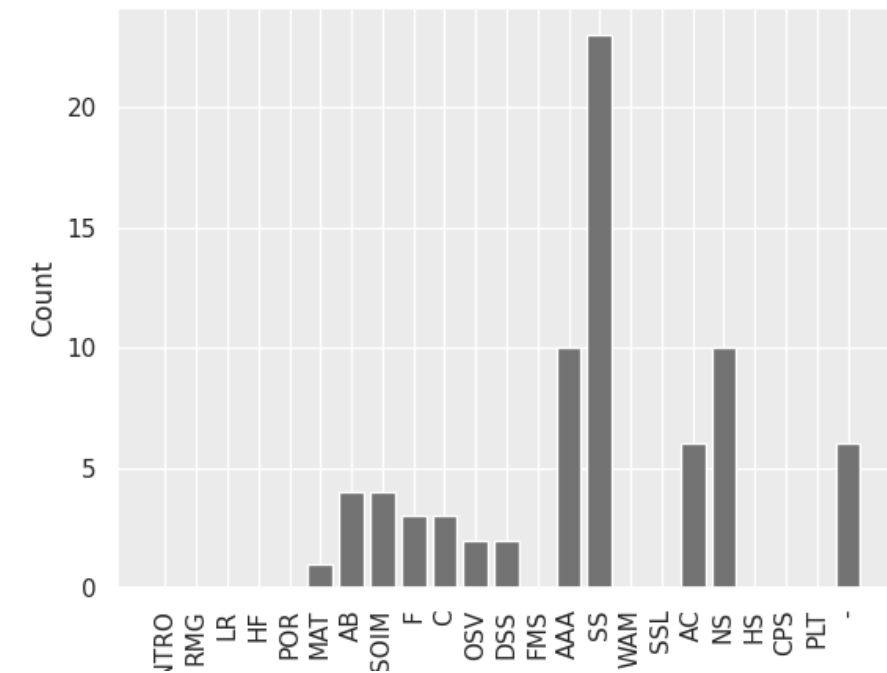
*You find they all have different focus*



[d0x3d!]



Decisions & Disruptions



Elevation of Privilege

*(This is warped slightly by the large number of patching cards creating a spike in RMG)*



**...but games  
aren't  
textbooks...**

*People learn while playing games...*



# **So lets watch people play the games!**

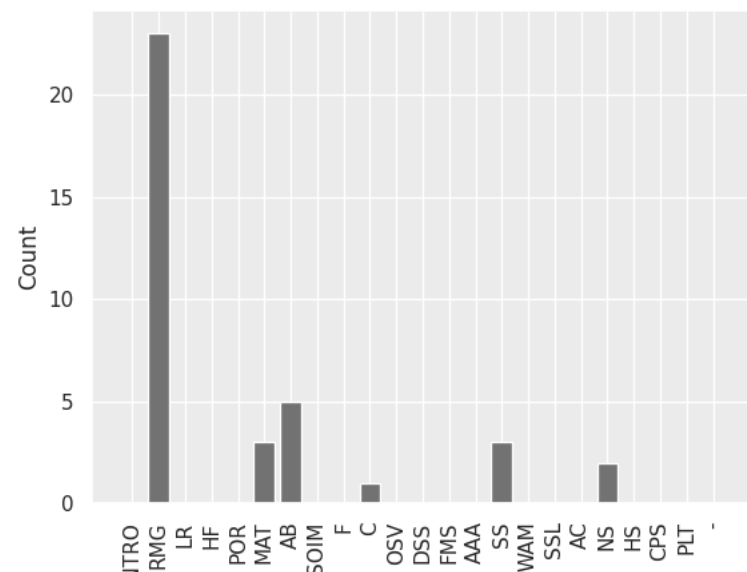
*What do people learn from play?  
Where do insights come from?*

*Specifically, apriori coding of points where participants reflected on gameplay to make comments about general cyber security practice; or where they voiced cyber security experience as the basis for gameplay choices...*

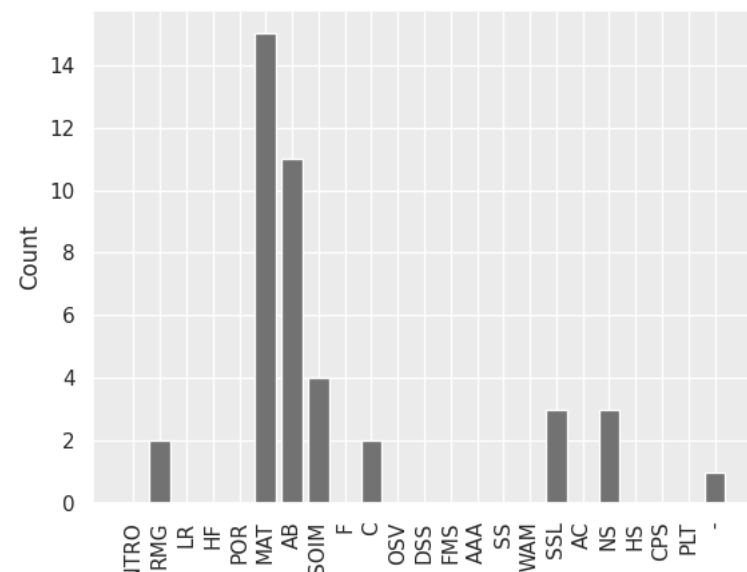
*...and then mapped onto CyBOK.*



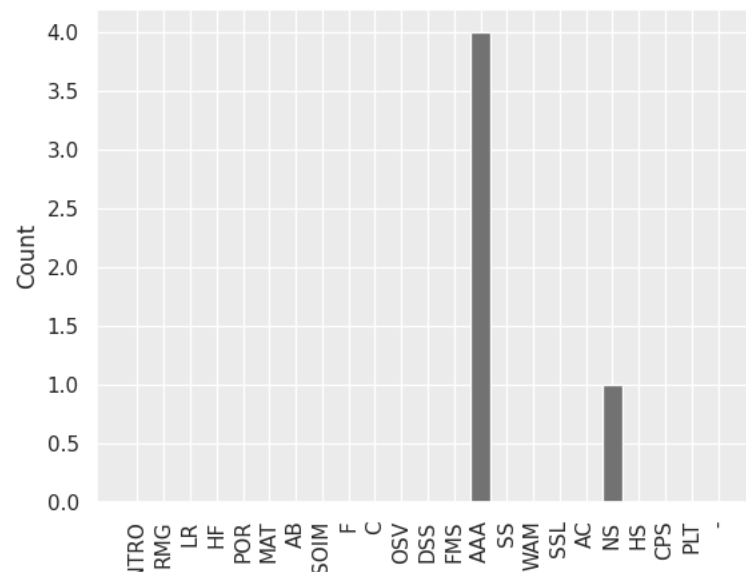
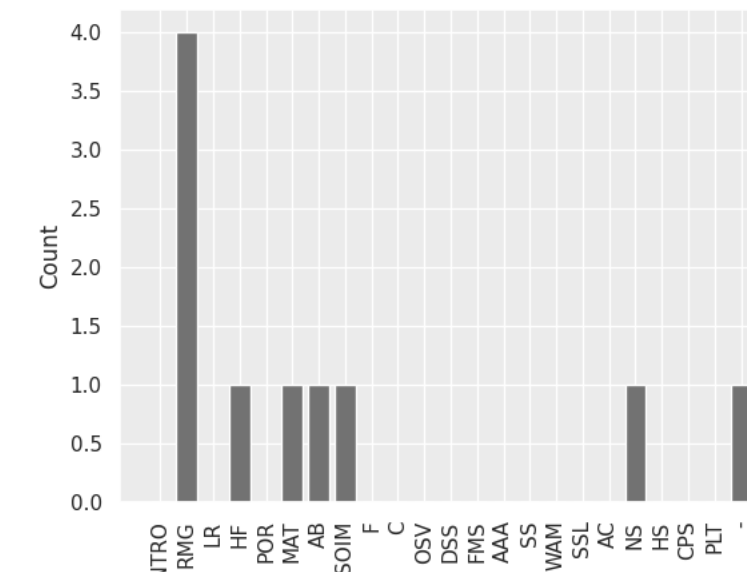
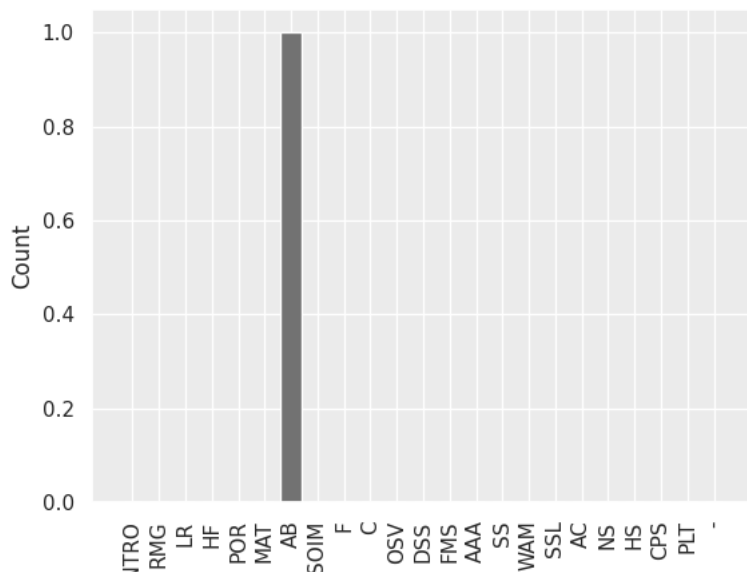
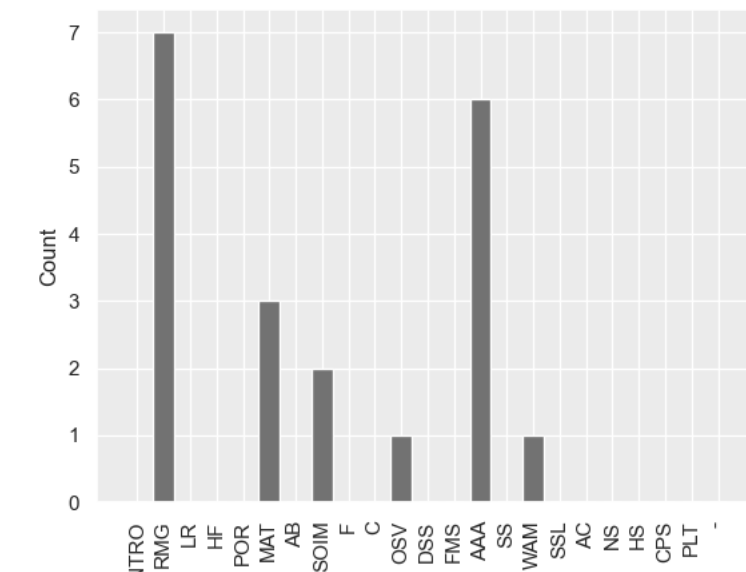
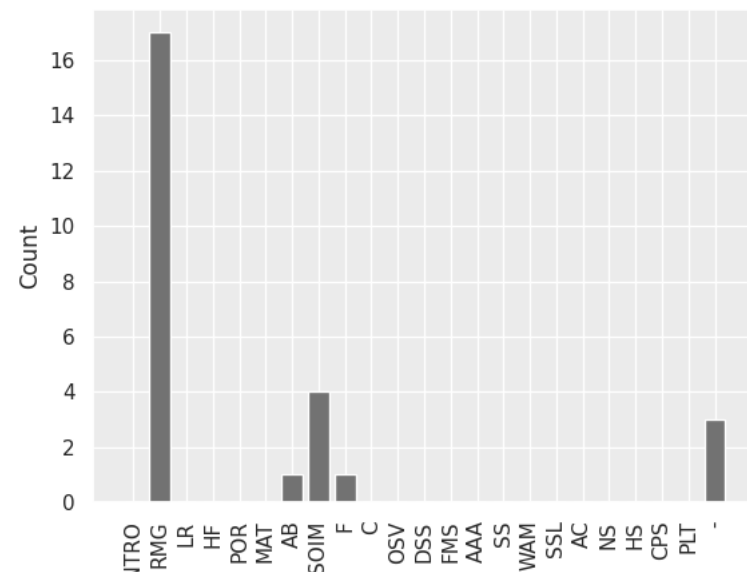
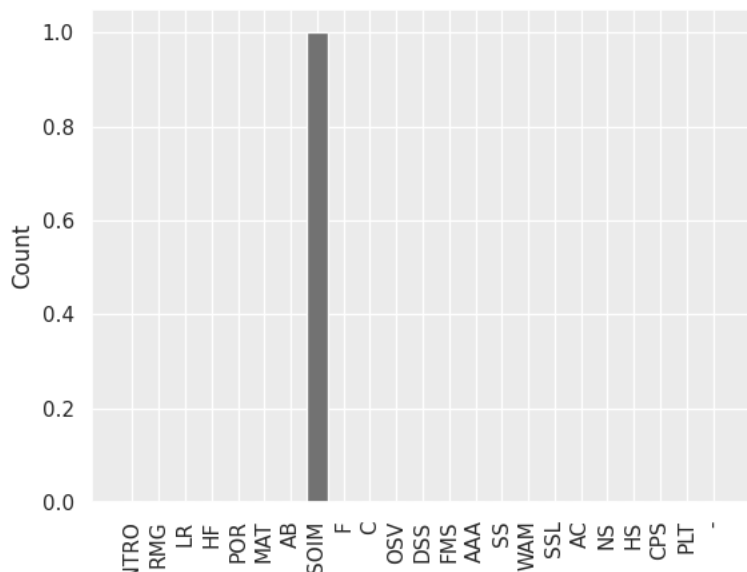
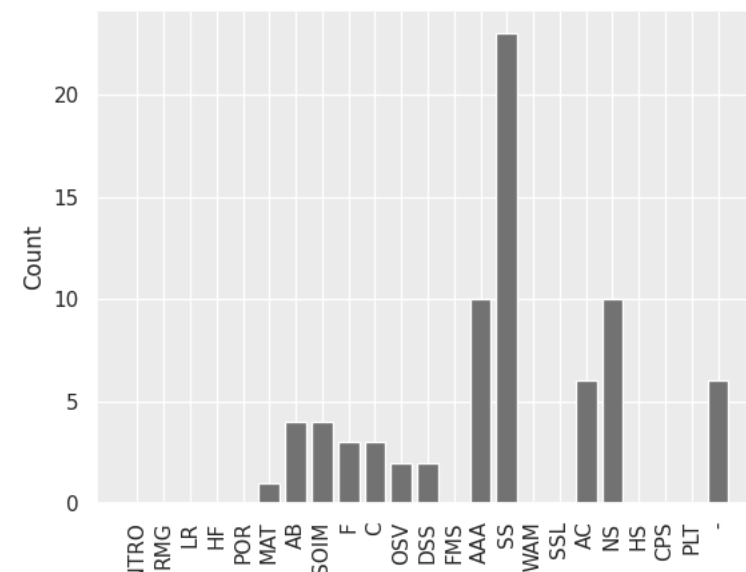
[d0x3d!]



Decisions & Disruptions



Elevation of Privilege





**So what did we  
learn?**



# So what did we learn?

## **Consider how people interact with materials**

It isn't enough to say "*I can map this much of this material onto this KA*". You need to consider how people interact with the material to truly capture what people get out of it.



# So what did we learn?

## **Randomness effects things**

When people played *Elevation of Privilege* what cards they got affected things... mapping can't account for dynamic interactions.



# So what did we learn?

## **There might not be a lot of cyber security**

Just because a game is cyber security themed and has a lot of mappable cyber security terms doesn't mean people will get any cyber security insight from it.



*“Good good. Good tactical move that.  
Firewall? Don’t care about that...”*

*I love that as hackers the firewall is  
the only thing that your consistently  
not attacking. Being careful.”*

— The games master watching people play [d0x3d!]