

Crimewatch 2.0: redesigning EVE Online's policing system

Matt Woodward

Senior Game Designer, CCP Games

Hi.





What I am talking about today





What I am talking about today

- Introduction to EVE Online



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- Introduction to EVE Online
- A brief history of Crimewatch



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- Introduction to EVE Online
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- Why Crimewatch 1.x was terrible



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- **Crimewatch 2.0 fundamentals**



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- Why Crimewatch 1.x was terrible
- Crimewatch 2.0 fundamentals
- Practical issues



What I am talking about today

- Introduction to EVE Online
- A brief history of Crimewatch
- Why Crimewatch 1.x was terrible
- Crimewatch 2.0 fundamentals
- Practical issues
- The end result (with graphs)



Introduction to EVE Online



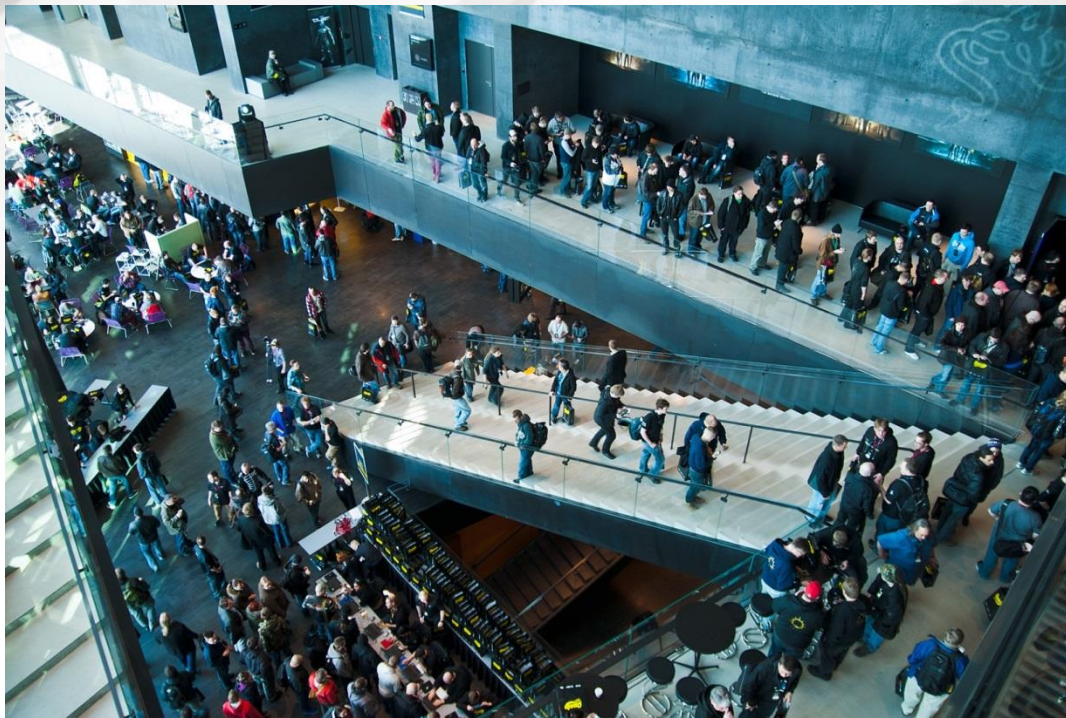
“It’s kinda like WoW, except... not”



Multiple titans firing doomsday weapons



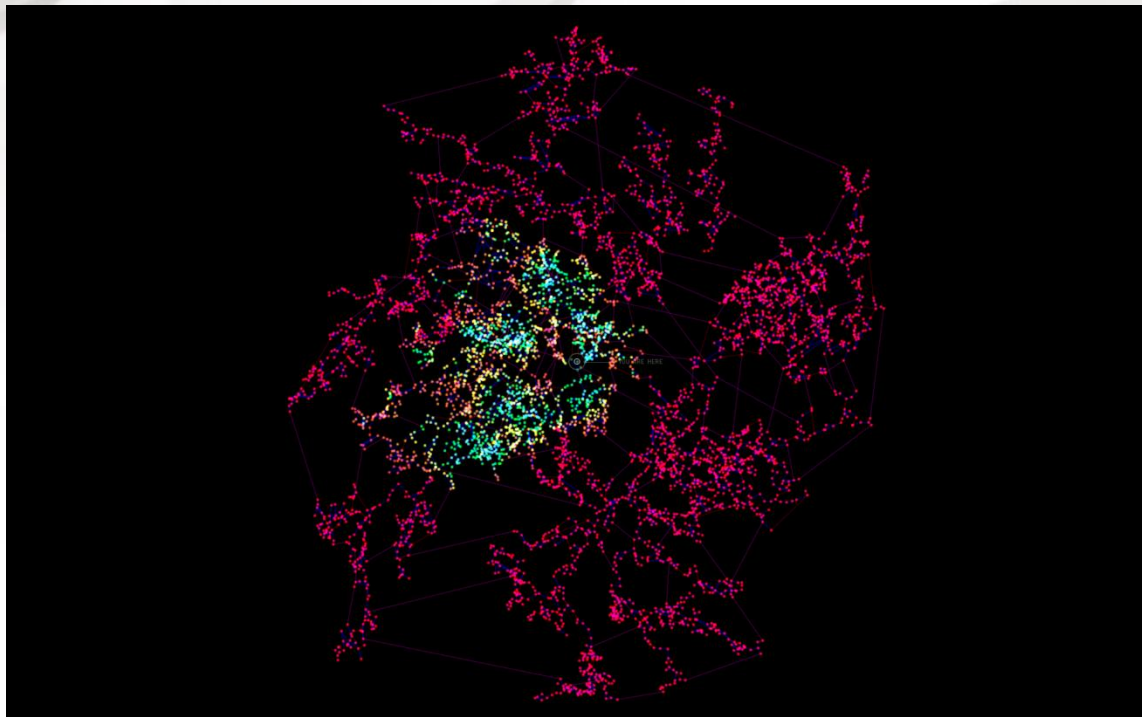
EVE is about people



EVE Fanfest 2013

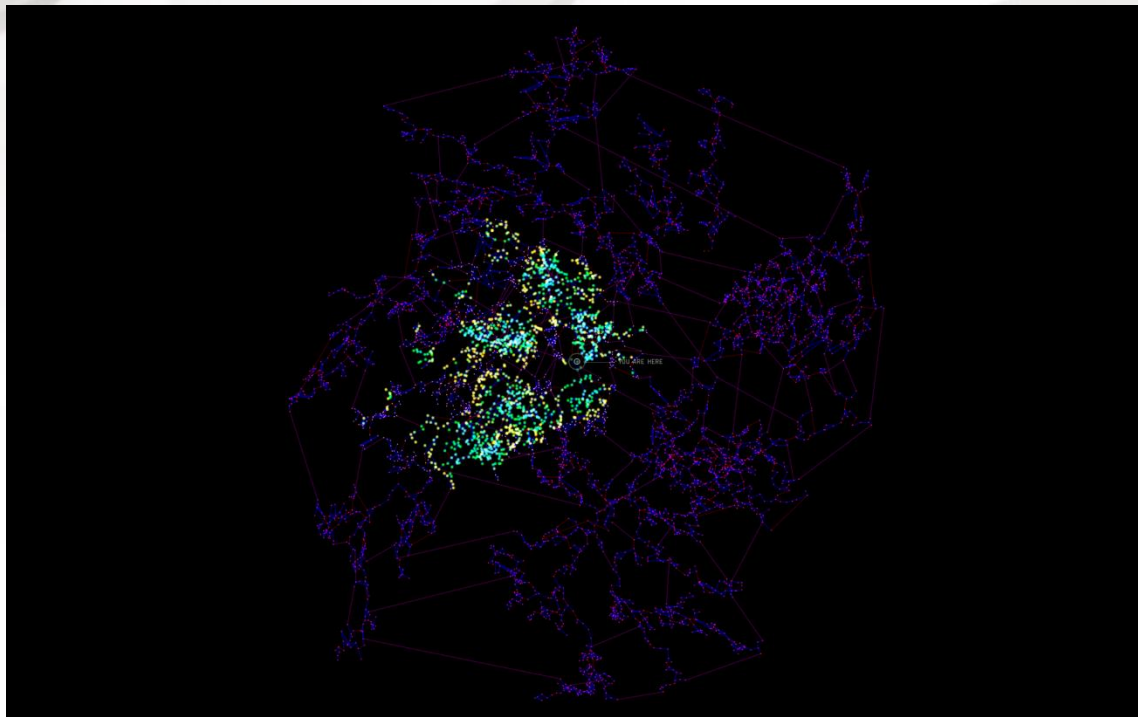


Choose your home



*EVE's
5500 star
systems*

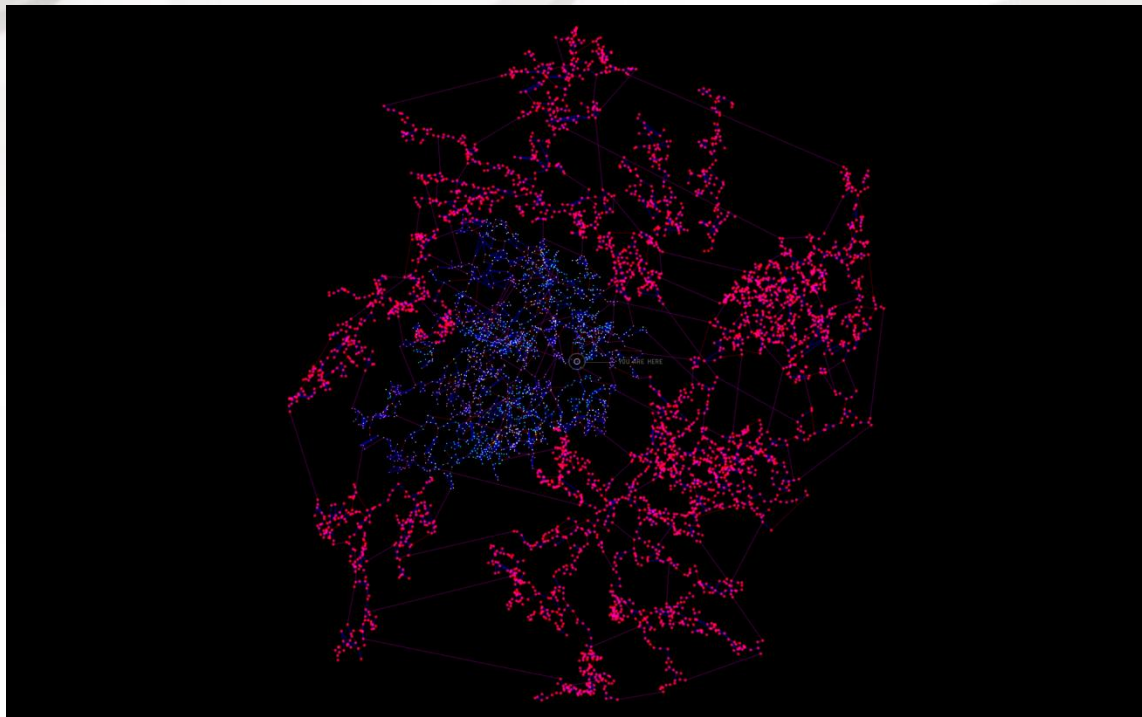
Hisec: stability



*High-
security
systems*



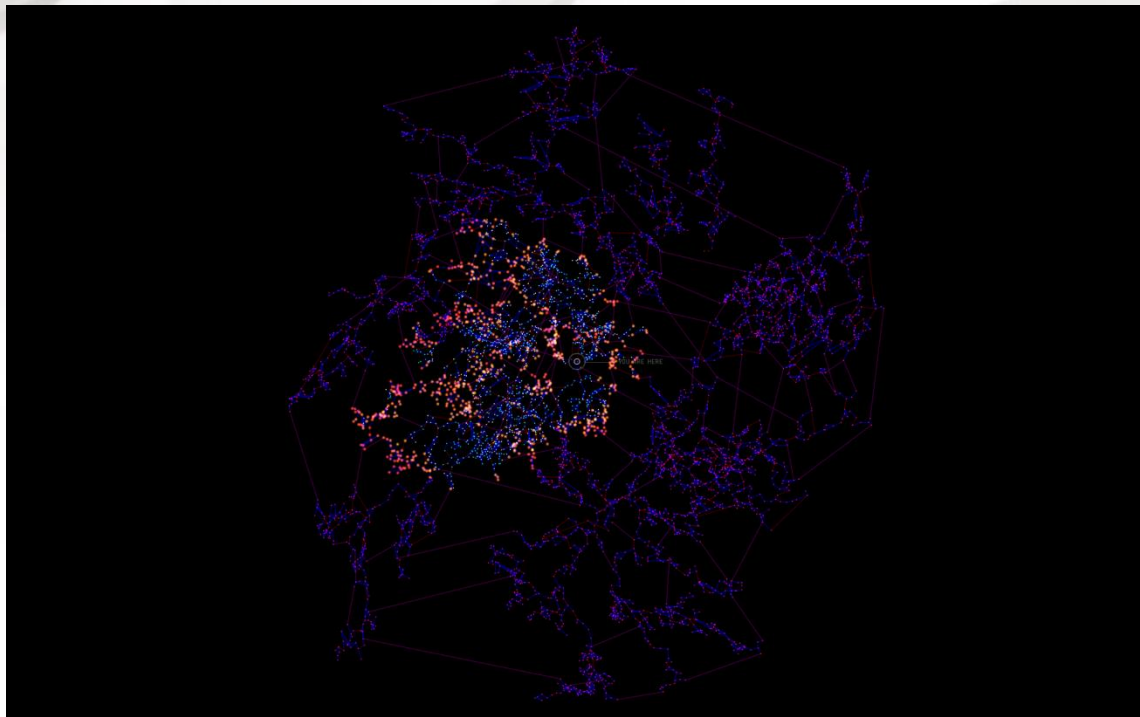
Nullsec: opportunity



*Null-
security
systems*



Lowsec: ...not that simple



*Low-
security
systems*

A brief history of Crimewatch 1.x



In the beginning...





Enter CONCORD



*A CONCORD
battleship*

The Yulai incident



*Zombies, Inc
camping a
stargate in
Yulai*



Stuff that Crimewatch 1.x did

- CONCORD



Stuff that Crimewatch 1.x did

- CONCORD
- Security status



Stuff that Crimewatch 1.x did

- CONCORD
- Security status
- Criminal flagging



Stuff that Crimewatch 1.x did

- CONCORD
- Security status
- Criminal flagging
- Killmails
- AI triggers
- Looting
- Bounties
- Kill rights
- Auto-module shutdown
- Jetcan theft
- Jump/dock aggro locks
- Log-off timers
- FW LP payouts
- FOF missiles



Descent into madness



Some broke-ass machinery



Descent into madness



From our friends at theprofoundprogrammer

“Hopefully not a train”



The light at the end of the tunnel



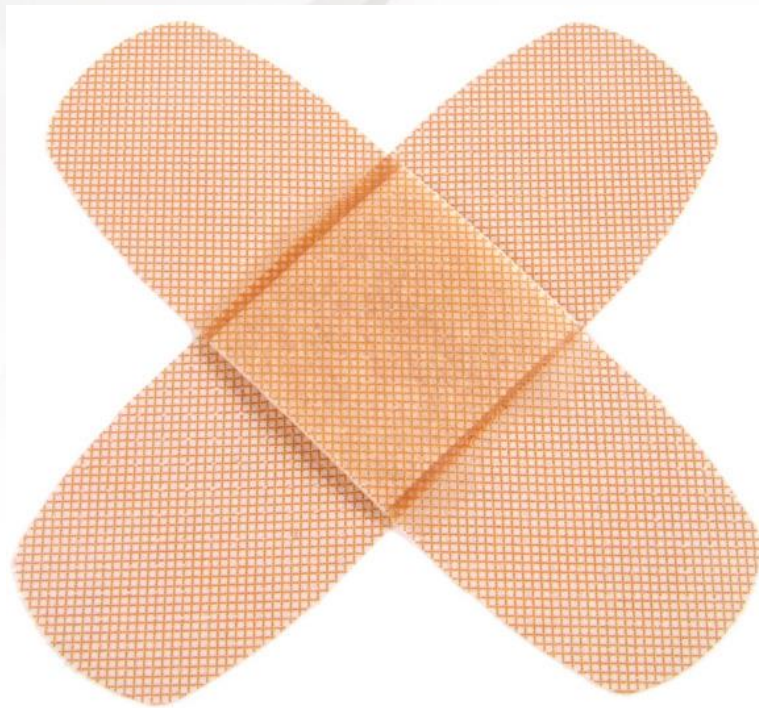
Why Crimewatch 1.x was terrible



Why Crimewatch 1.x was terrible

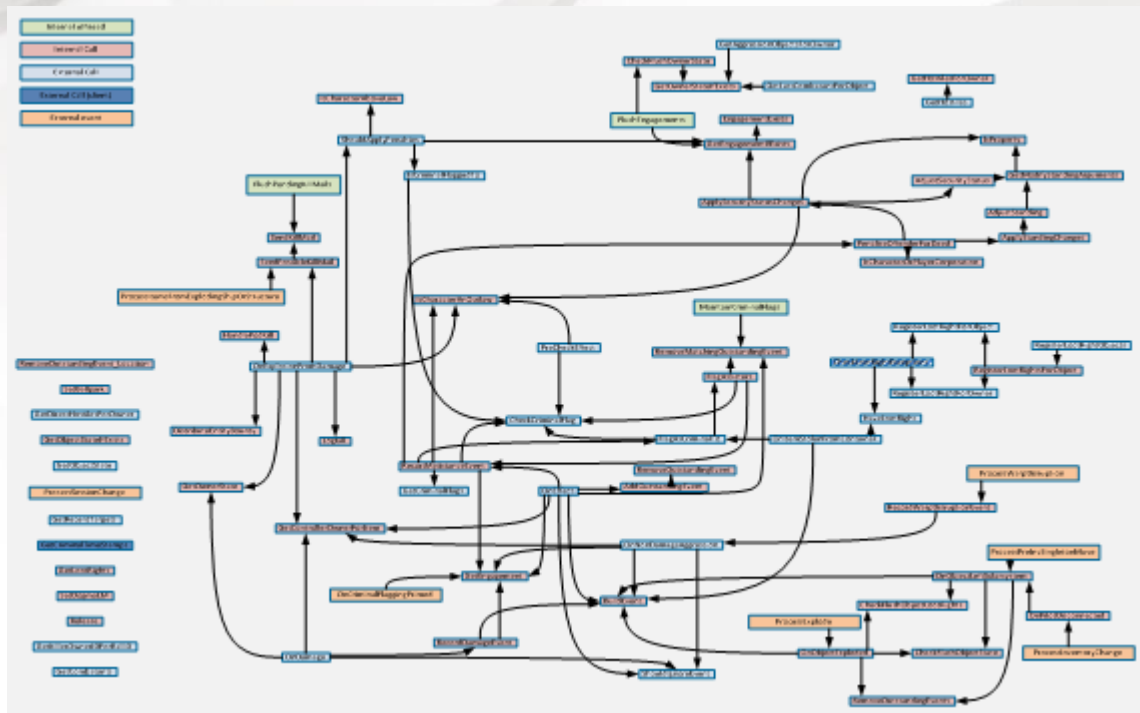
1. Complexity breeds complexity

Special-casing





You don't fix a complex system by adding complexity



*Code relationship diagram for CW1.x,
as of May 2012*



Why Crimewatch 1.x was terrible

1. Complexity breeds complexity



Why Crimewatch 1.x was terrible

1. Complexity breeds complexity
2. Leveraging intuitive fairness



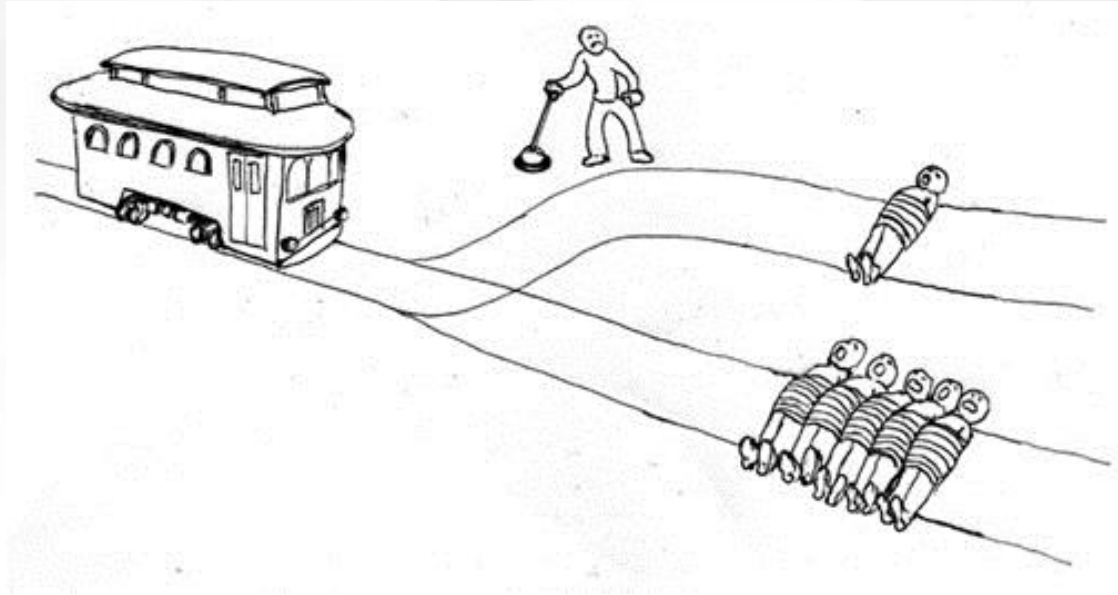
The Smartbomb is not smart



The Smartbomb, in all its ~~stupidity~~ glory



People's intuitions are not logically consistent



A simple cartoon of the basic trolley problem



Why Crimewatch 1.x was terrible

1. Complexity breeds complexity
2. Leveraging intuitive fairness



Why Crimewatch 1.x was terrible

1. Complexity breeds complexity
2. Leveraging intuitive fairness
 - 2a. Aggression graphs



Aggression graphs are an abomination before God



Aggression graphs are an abomination before God

1. **Self-defense:** Everyone should be able to defend themselves without penalty



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2. **Assistance:** If I can attack you without penalty, and someone heals you, I can attack them without penalty



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3. **Minimal scope:** Only people directly involved should be allowed to attack without penalty

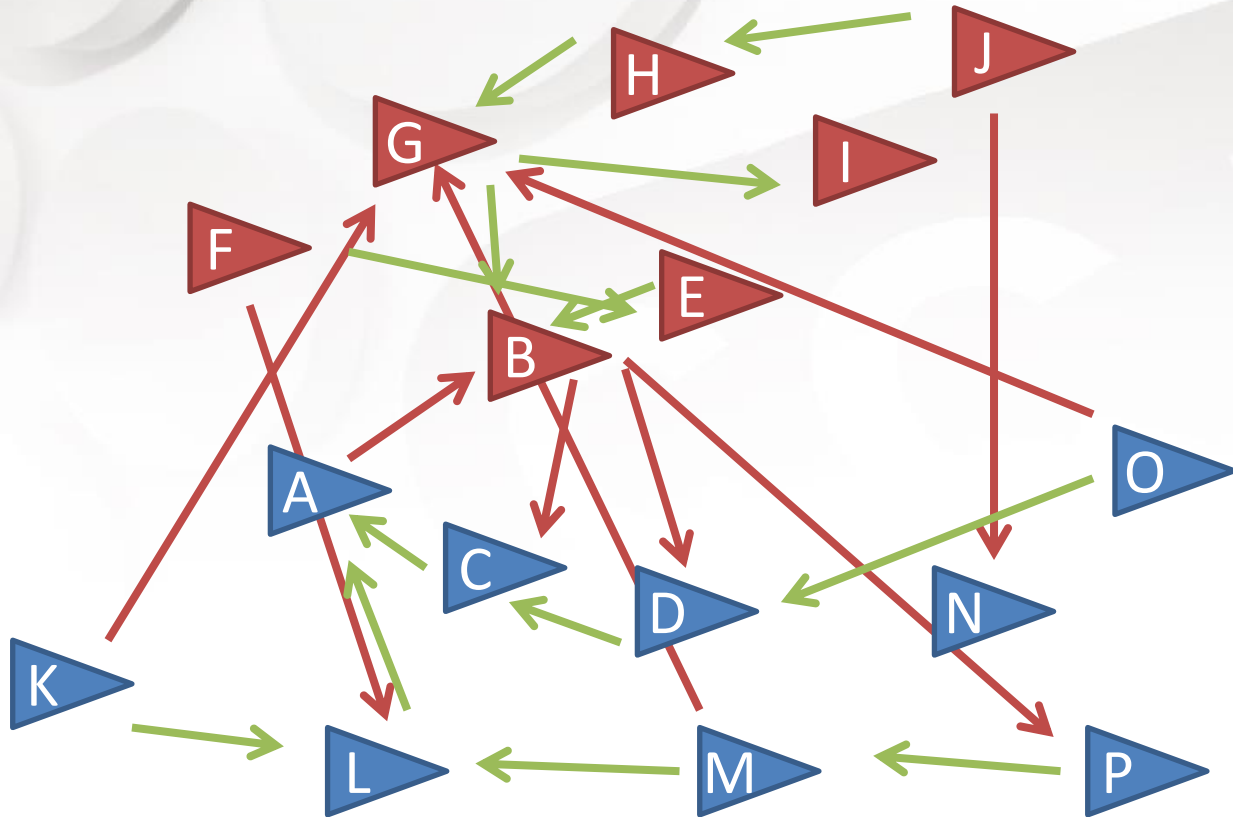


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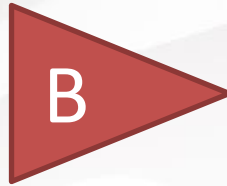


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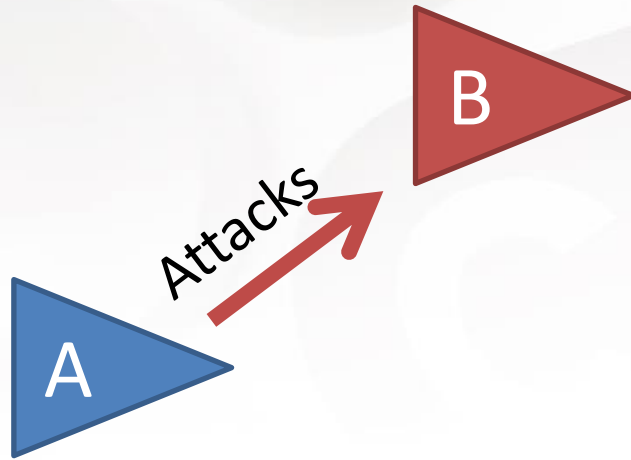


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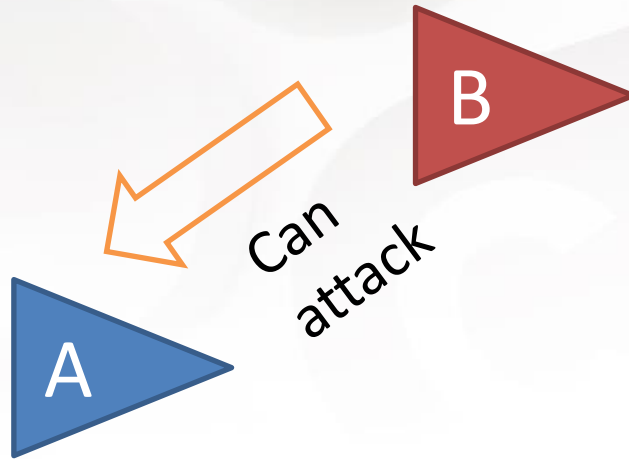


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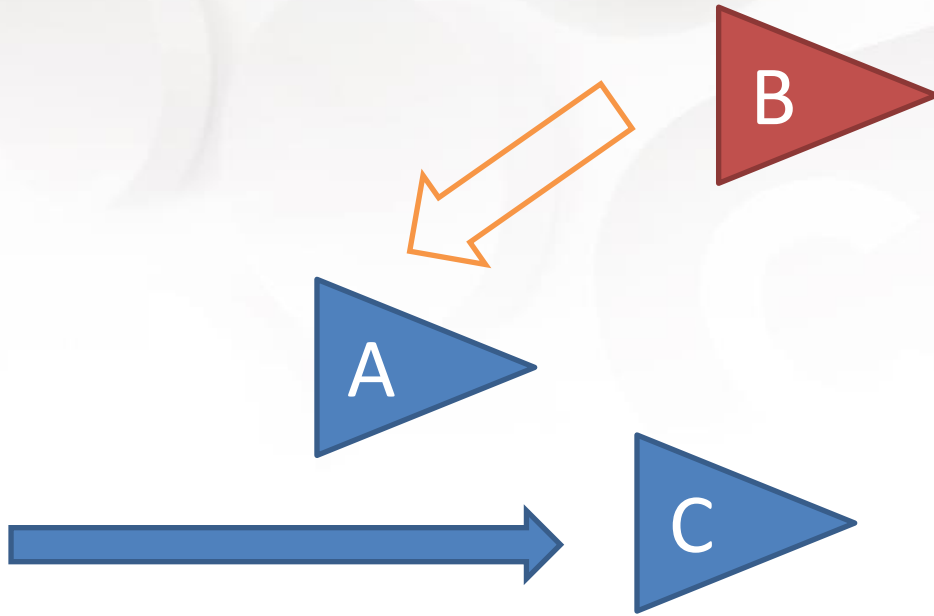


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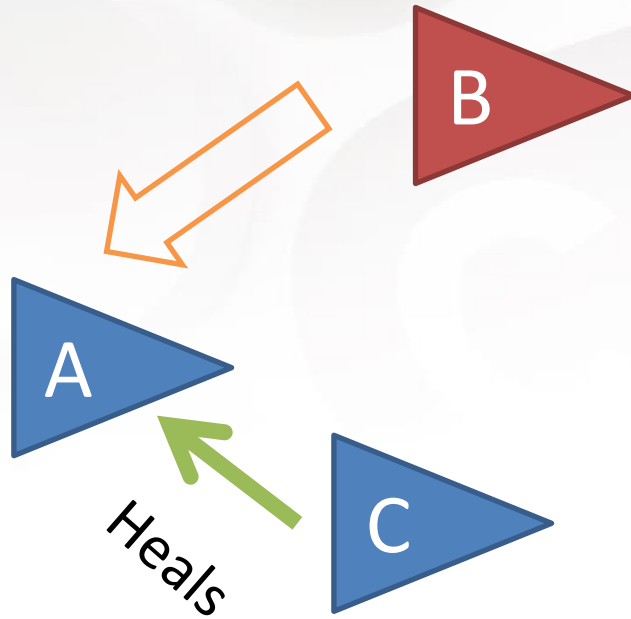


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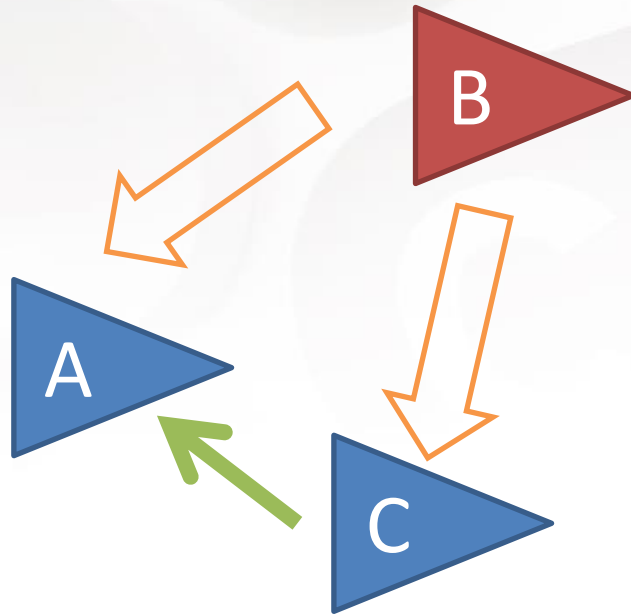




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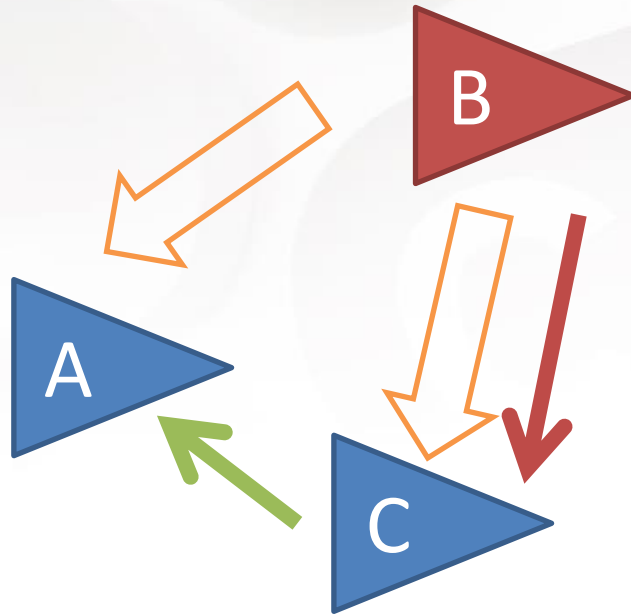


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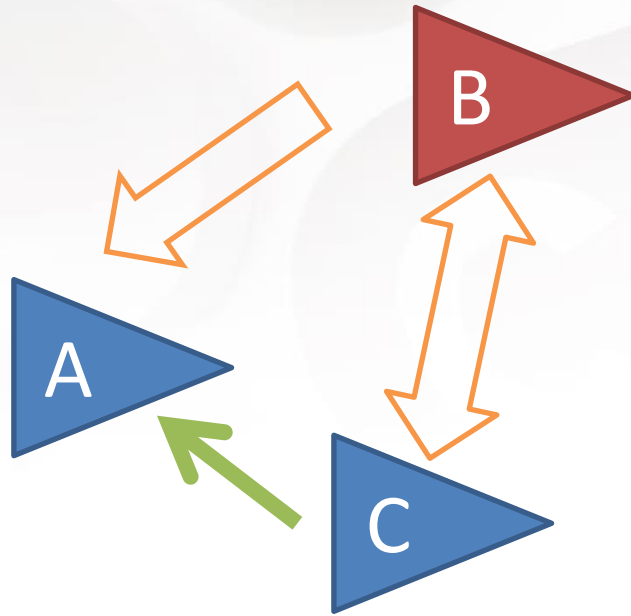


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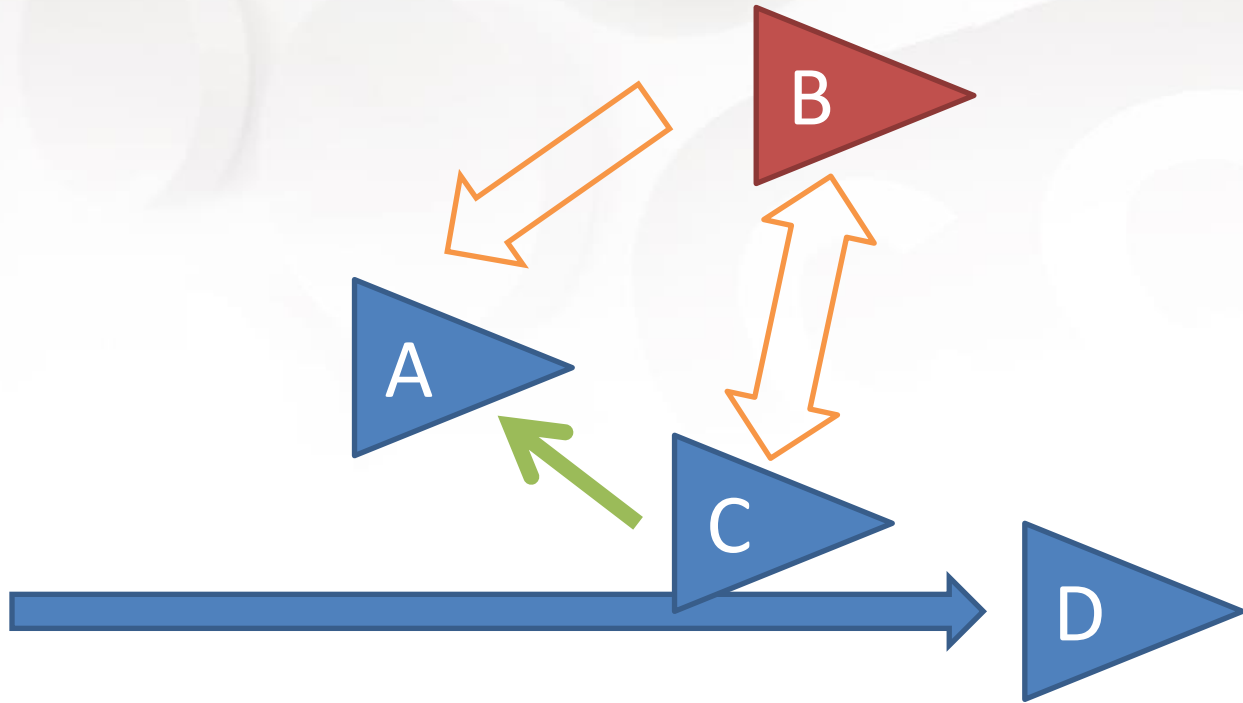


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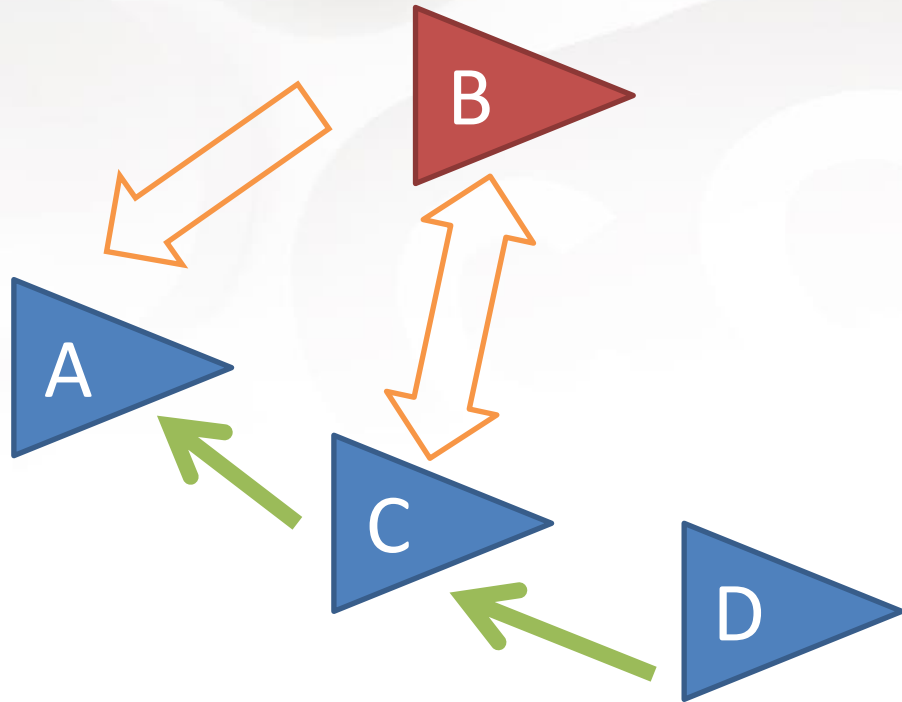


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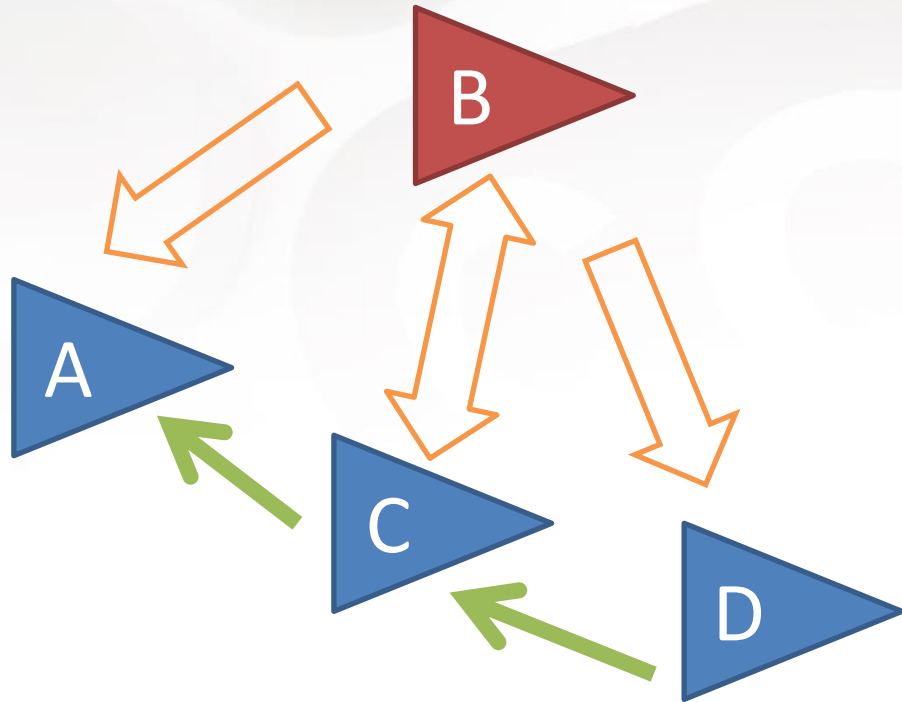


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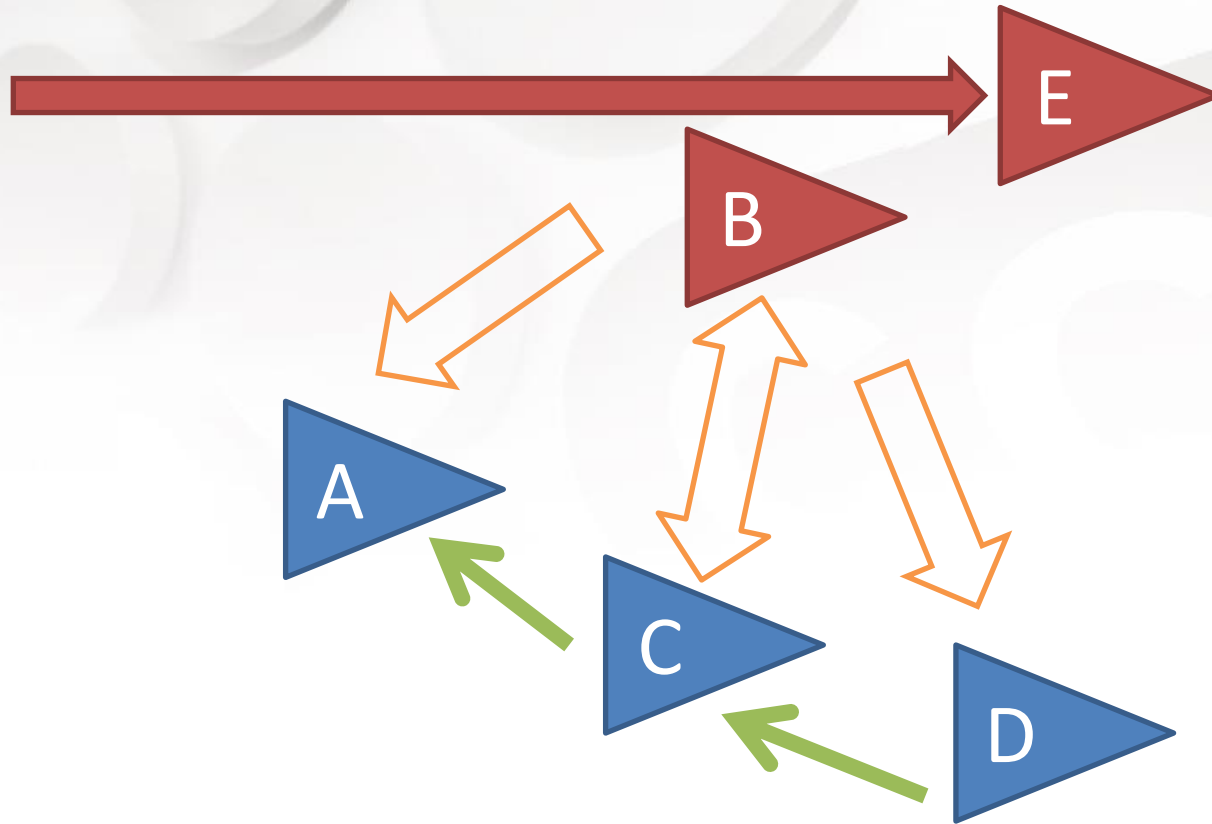


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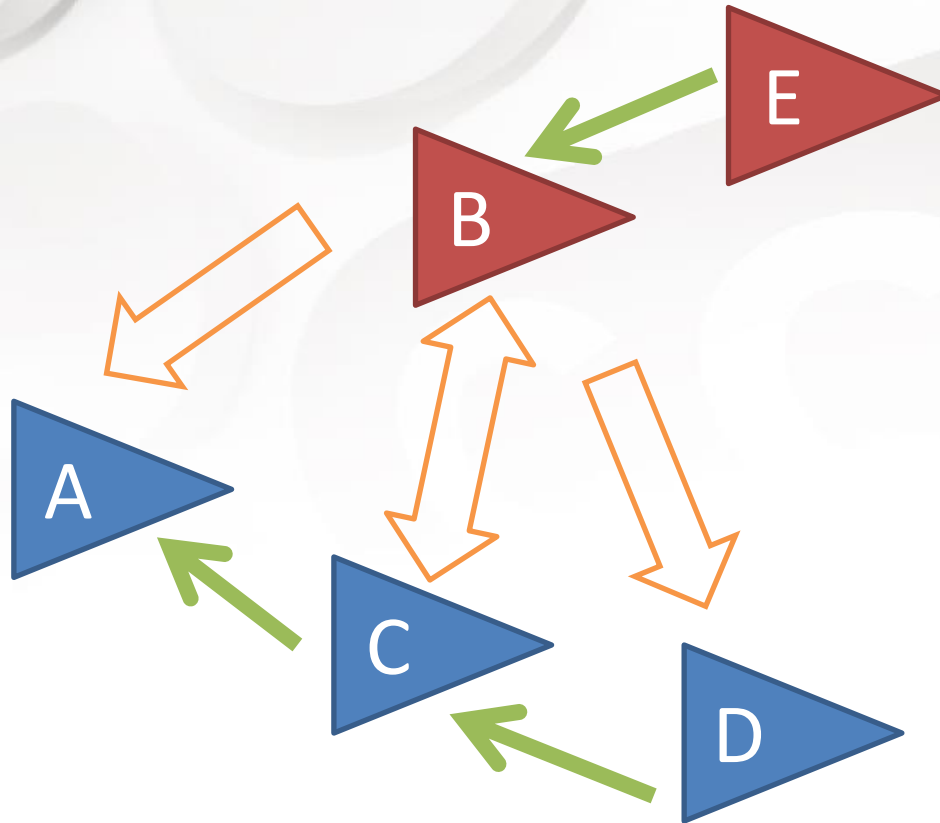


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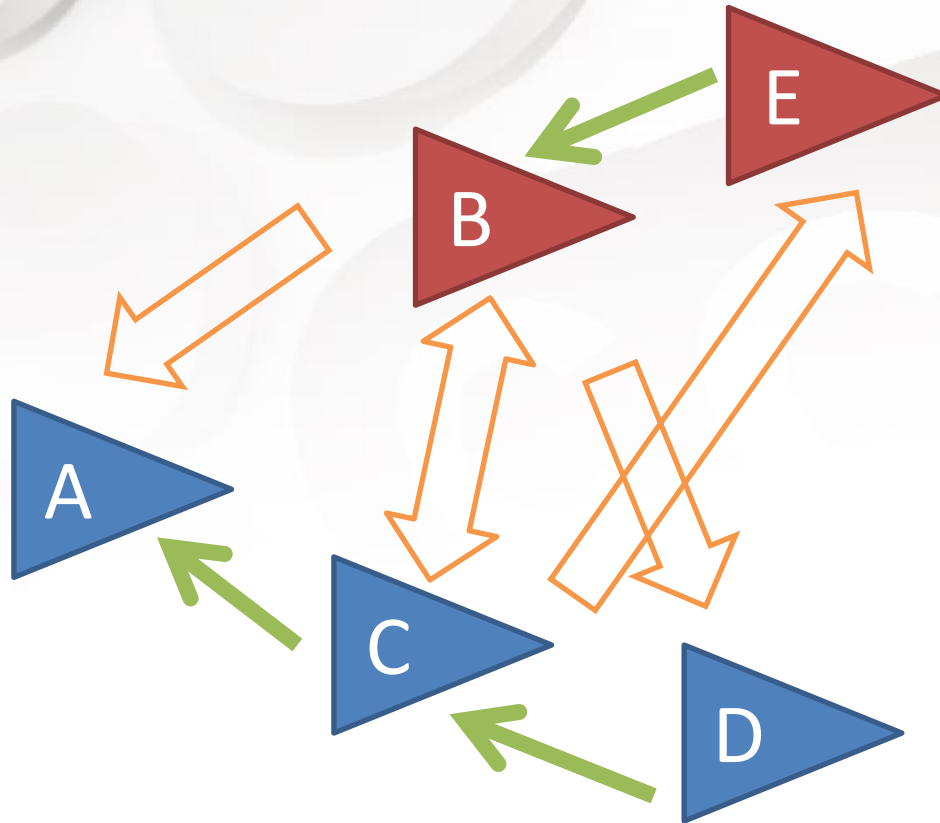


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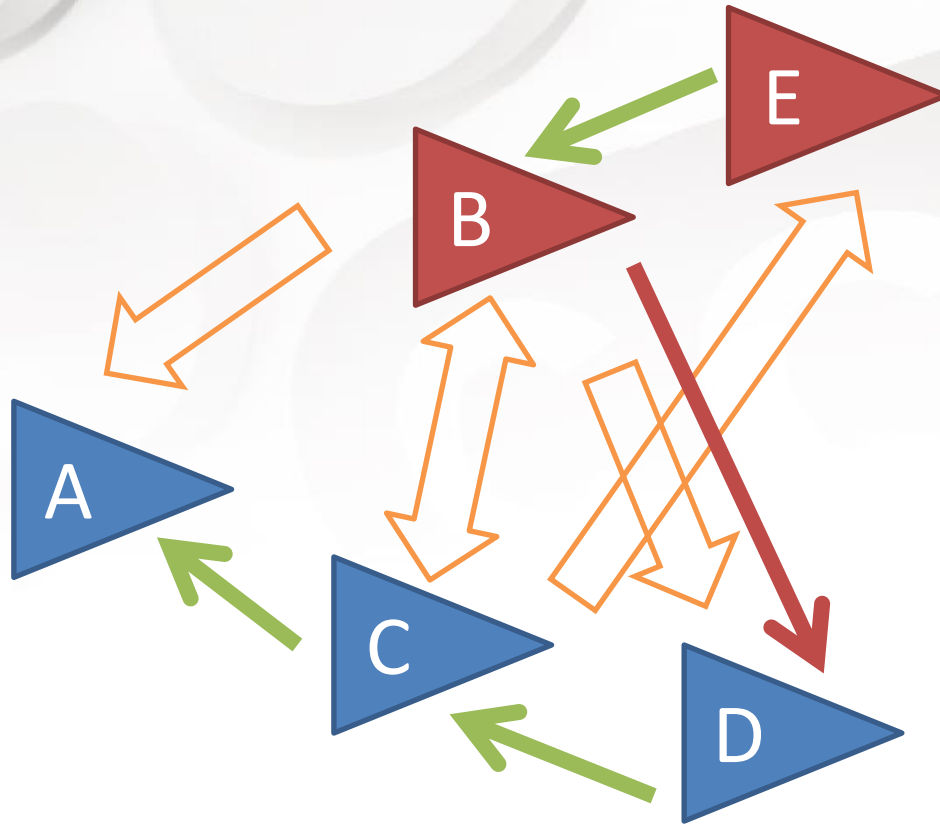


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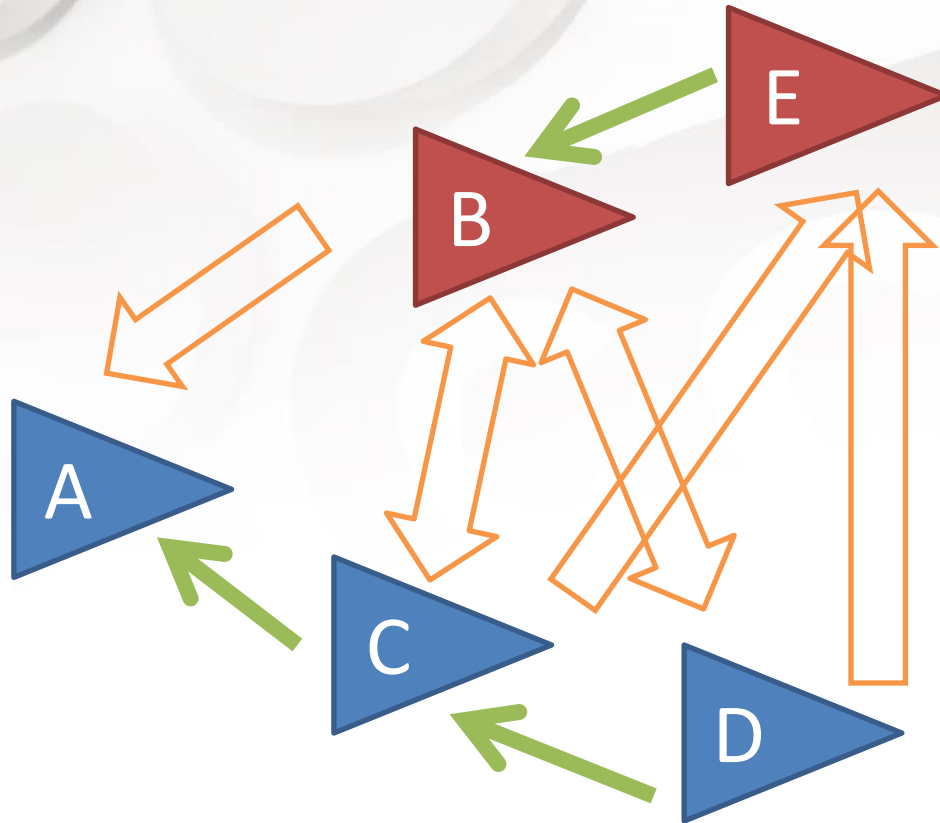




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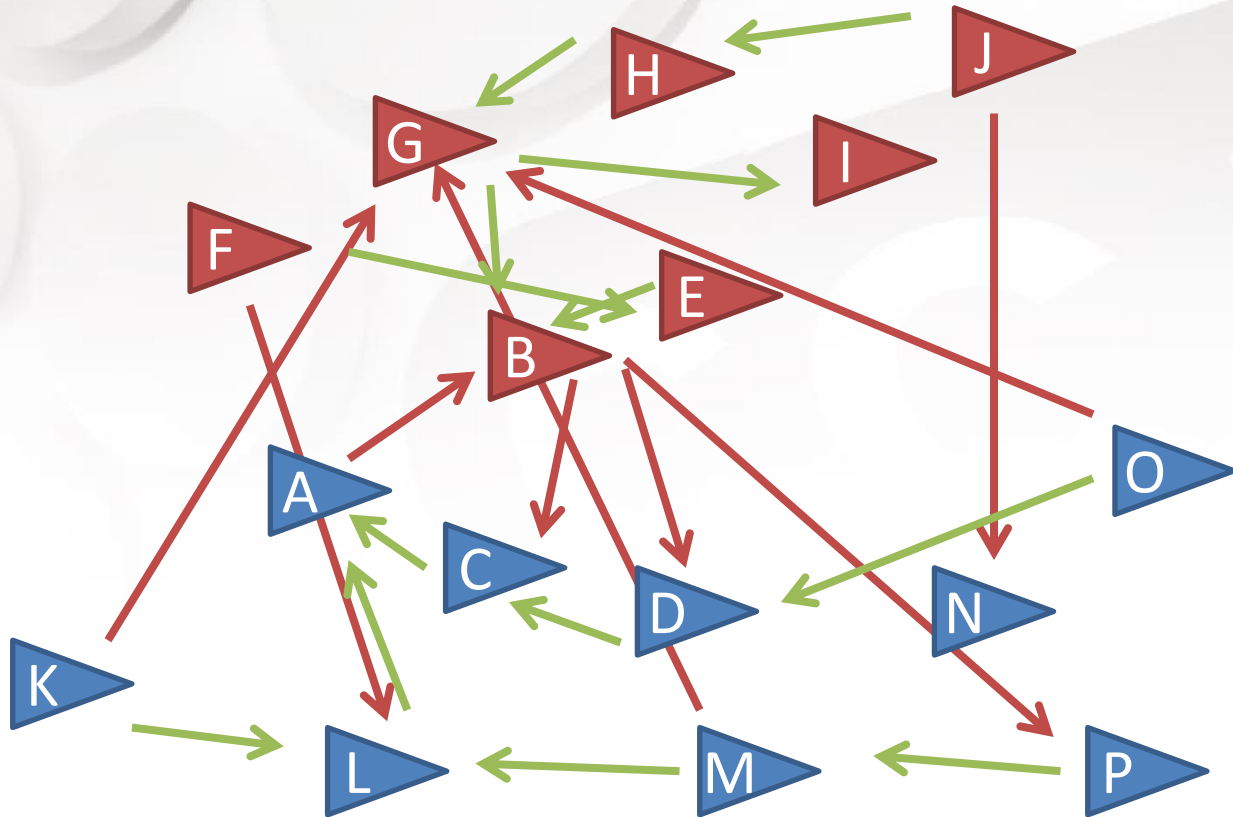


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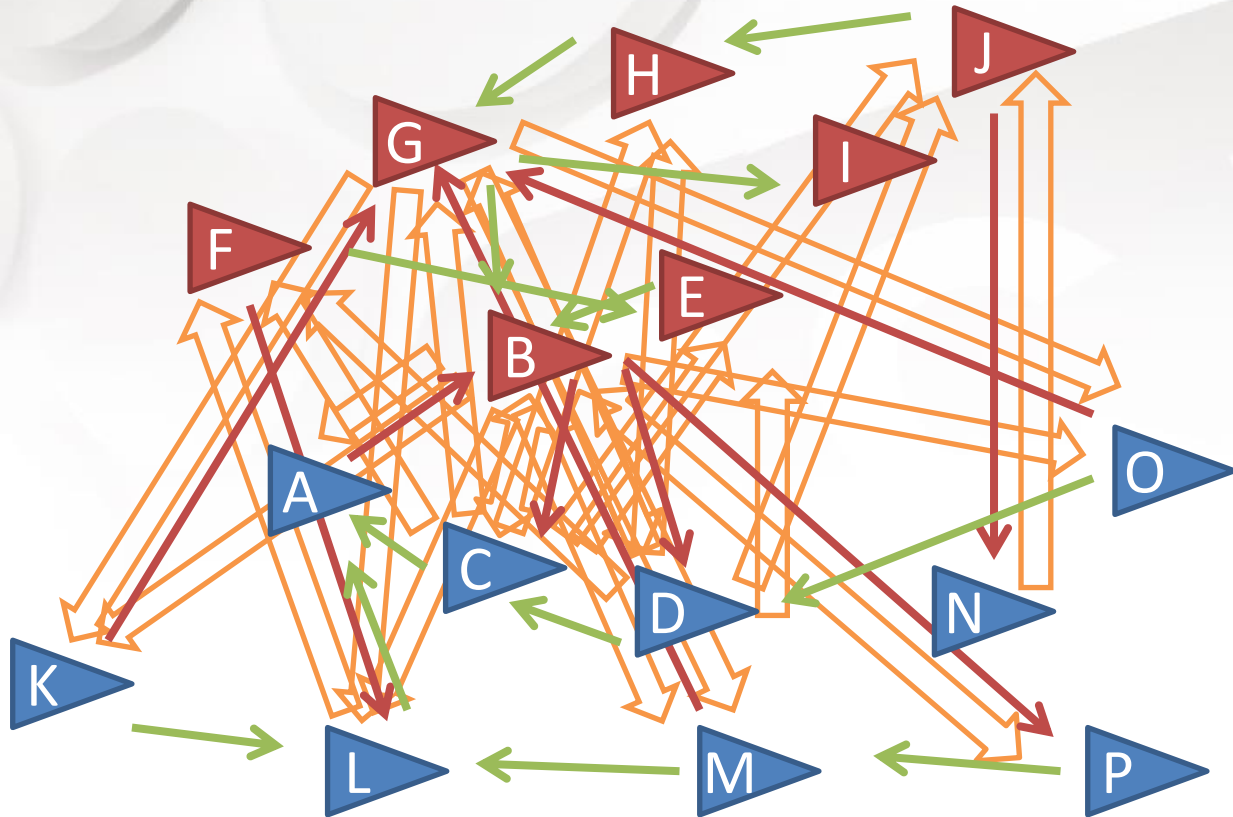




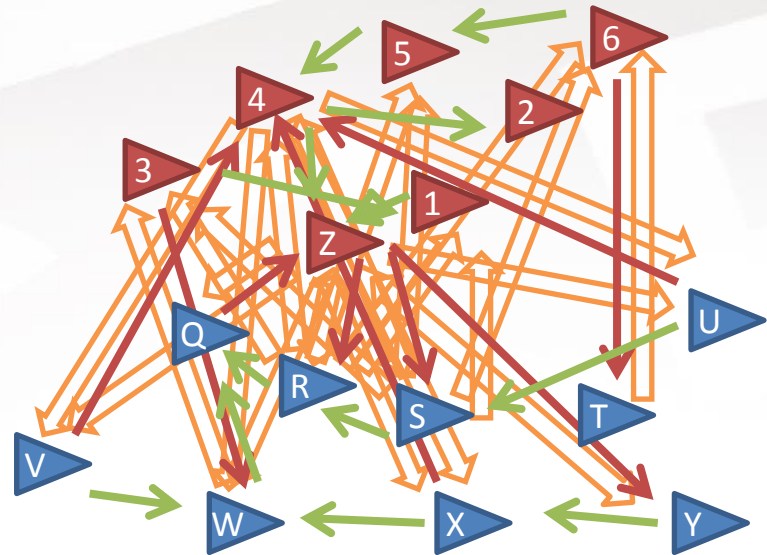
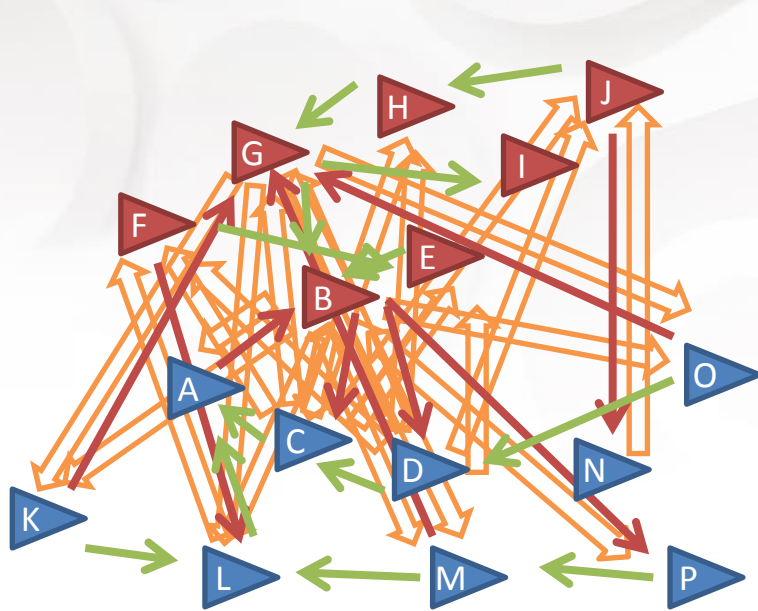
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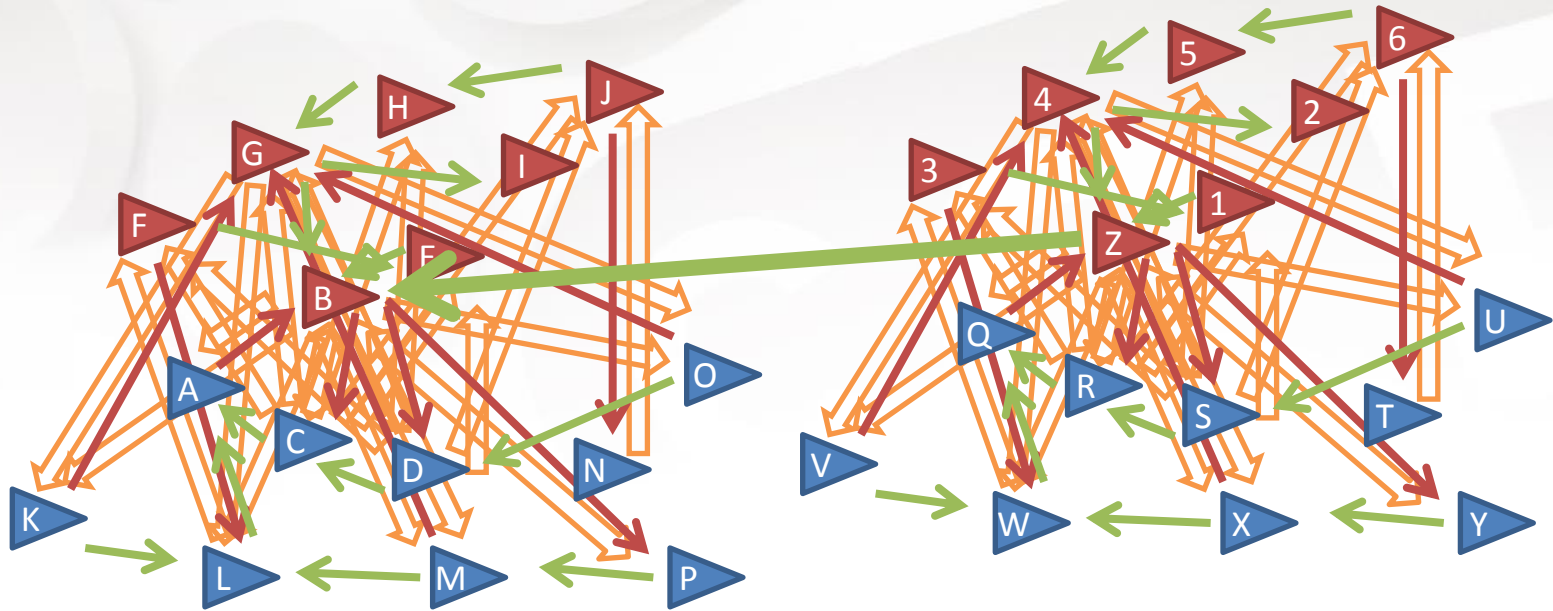
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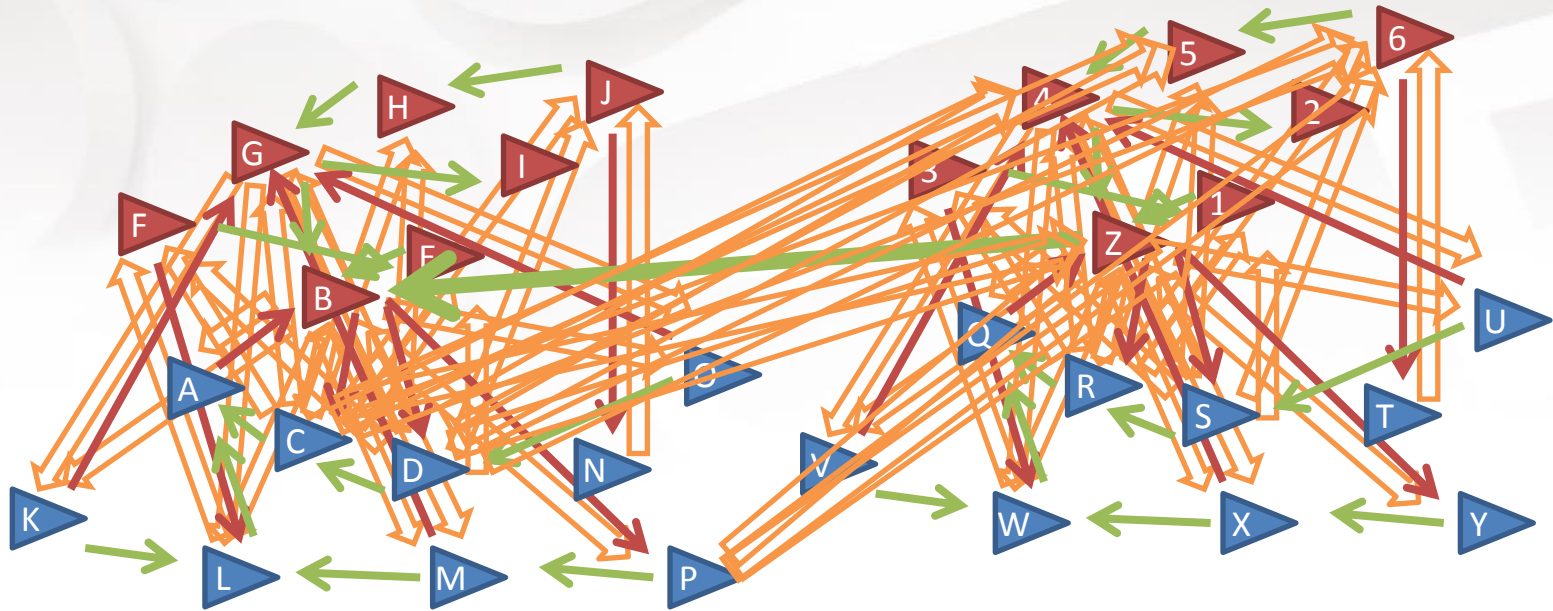
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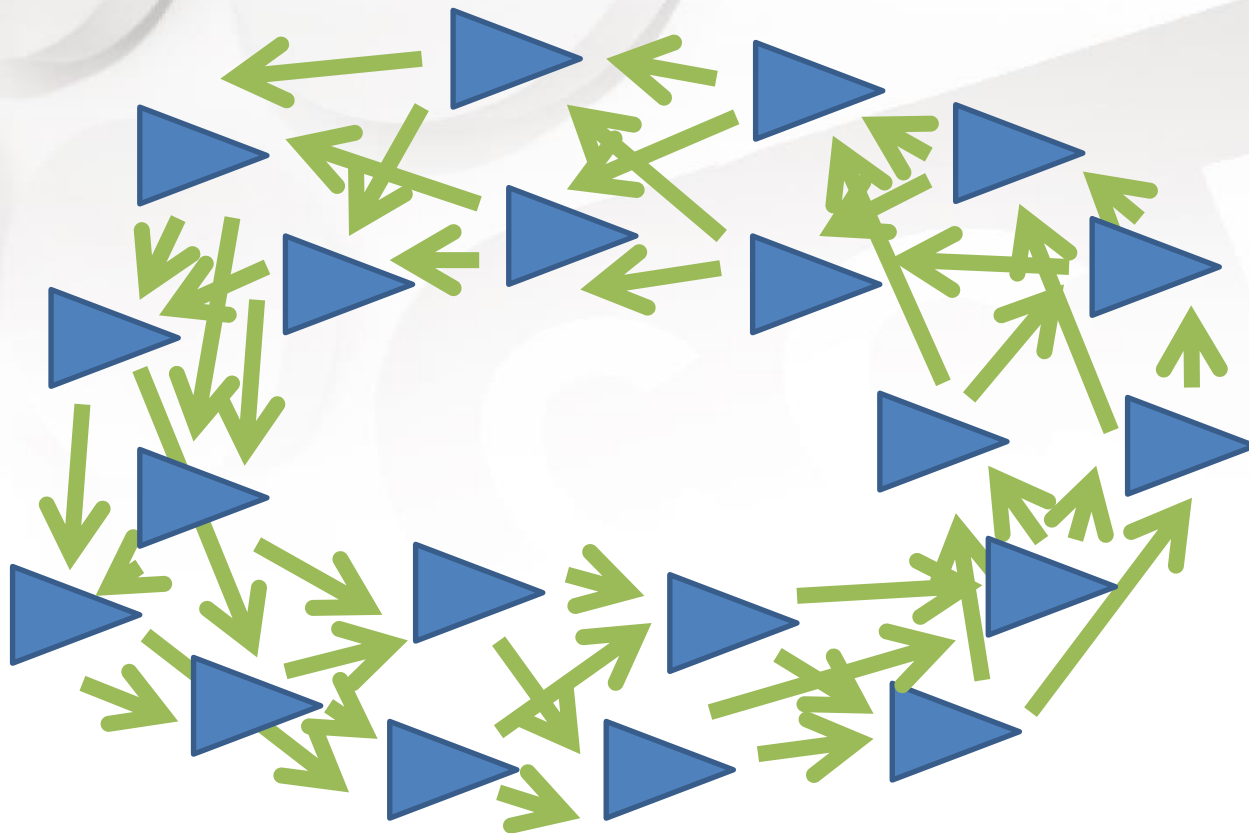


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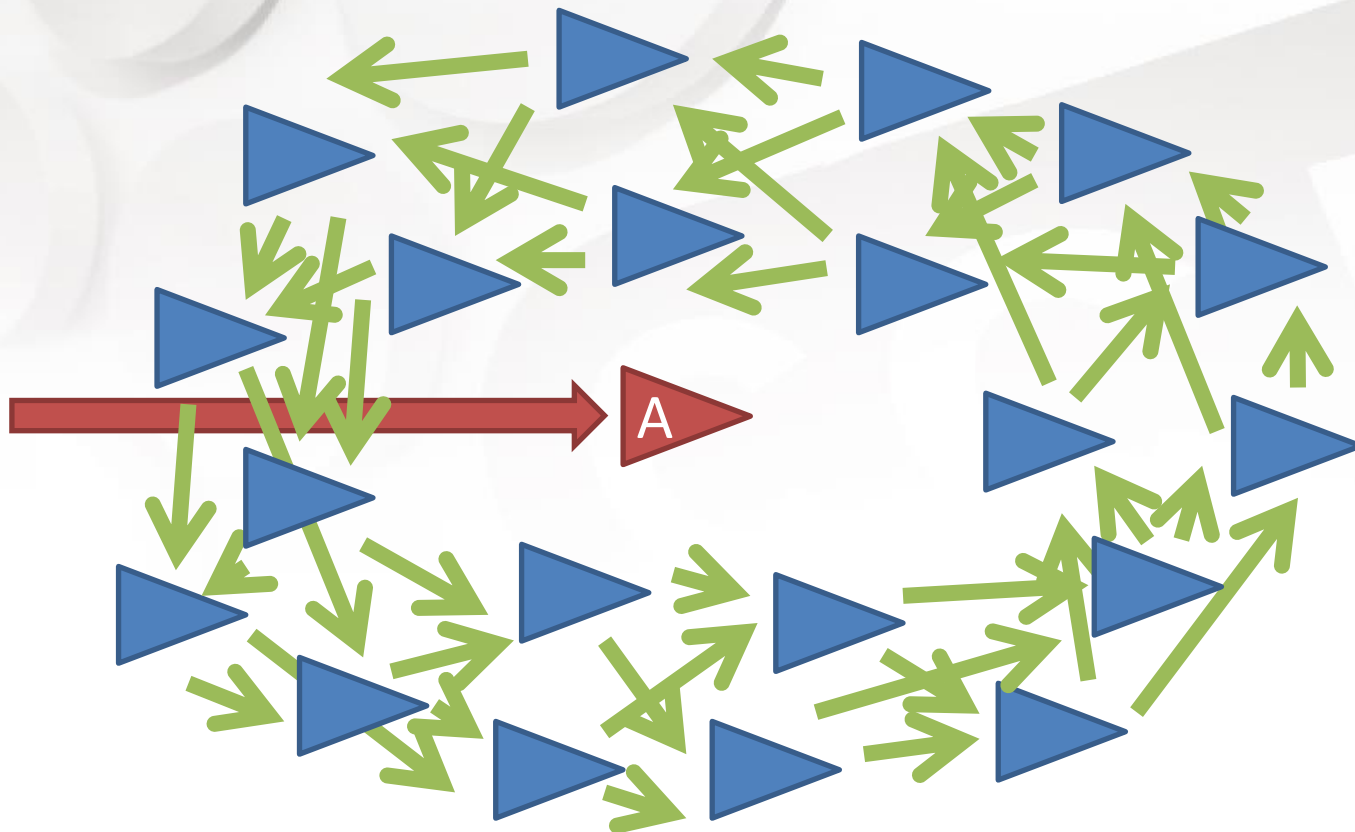




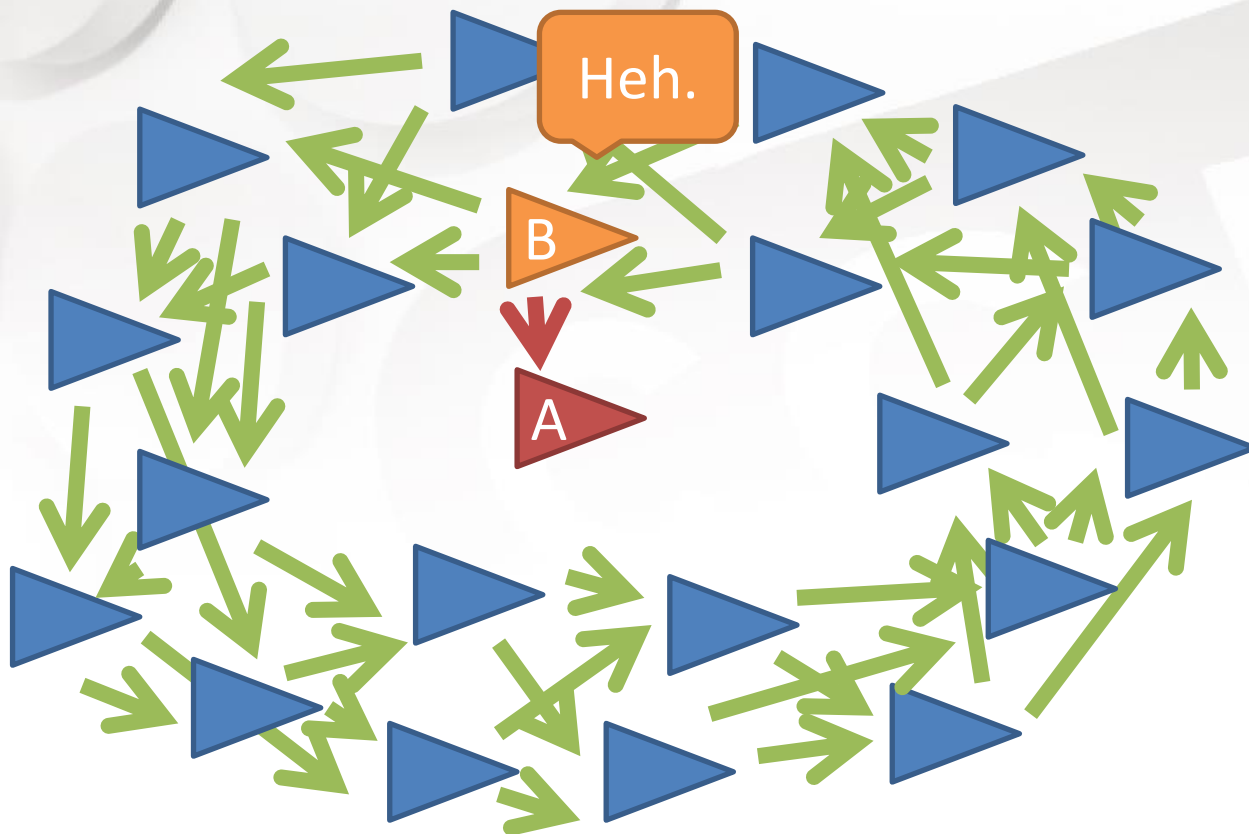
Abusing this for fun and profit



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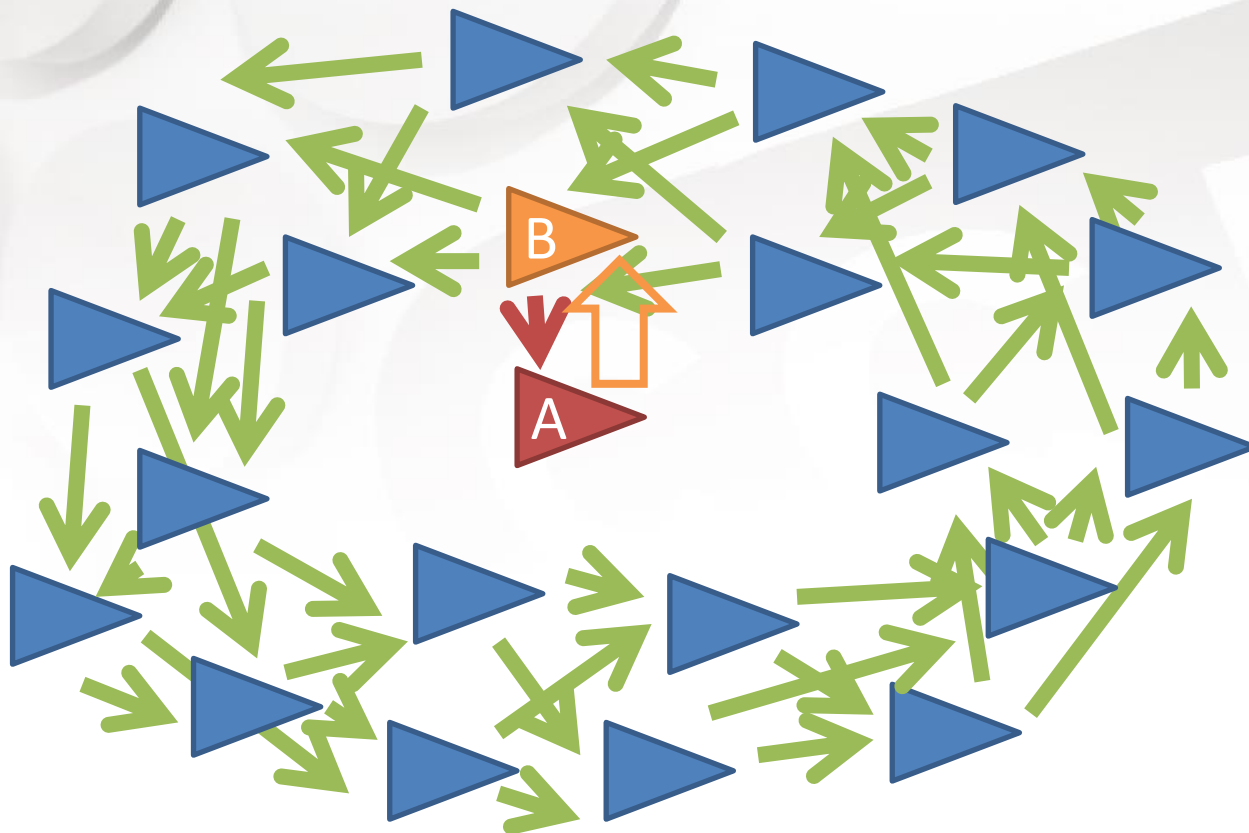


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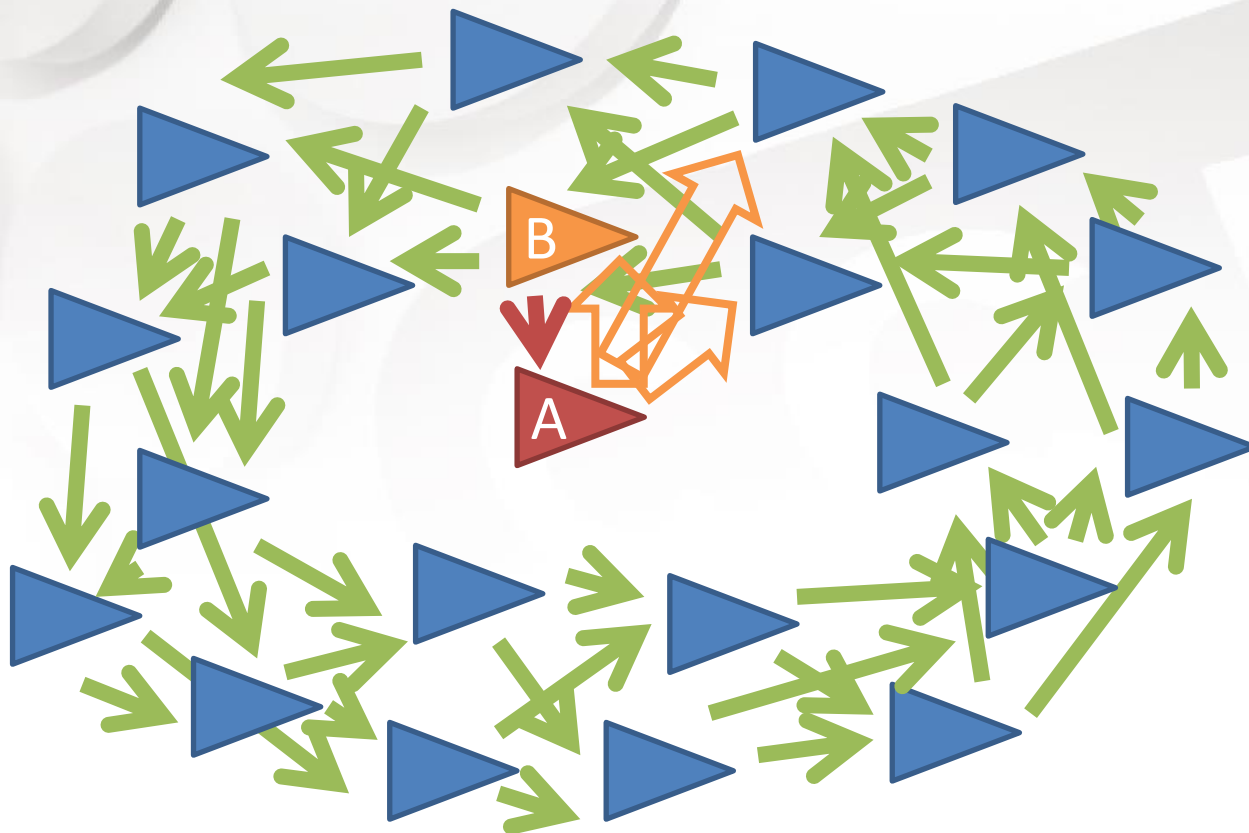


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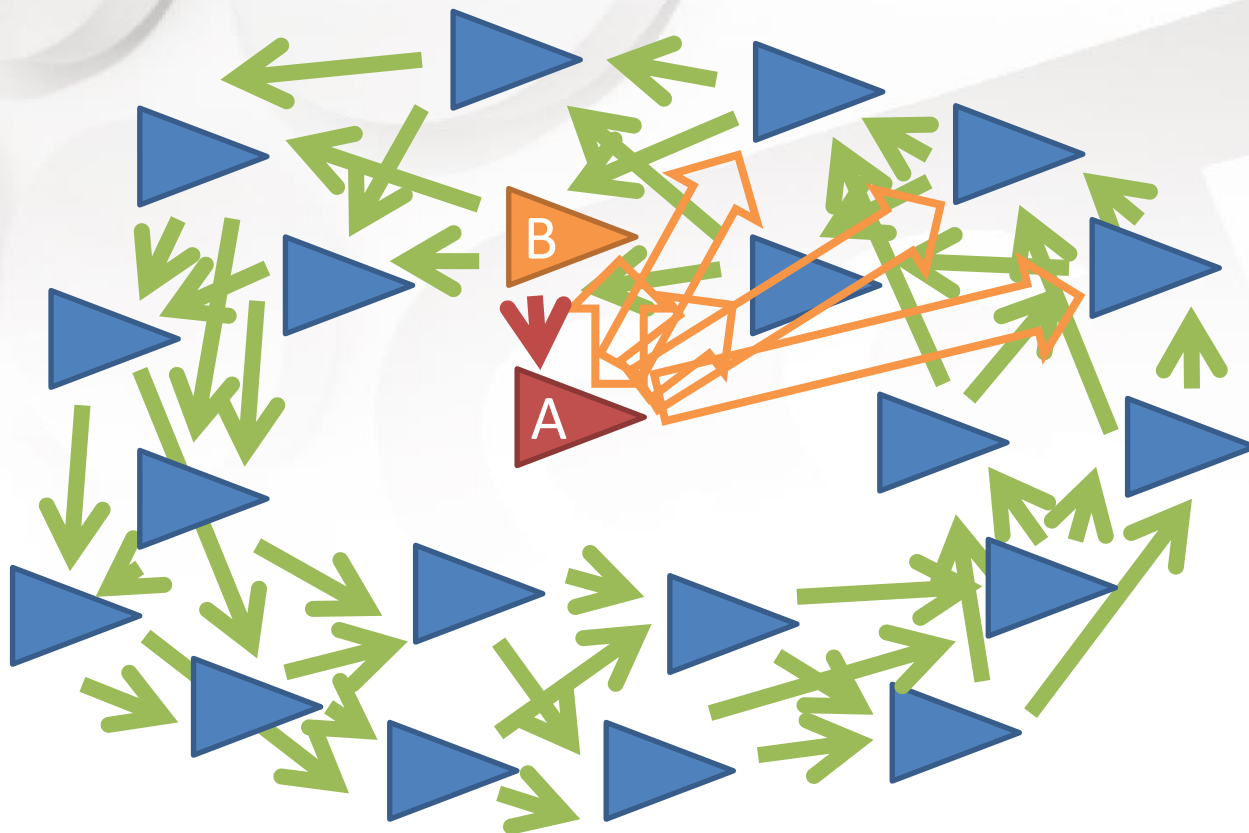


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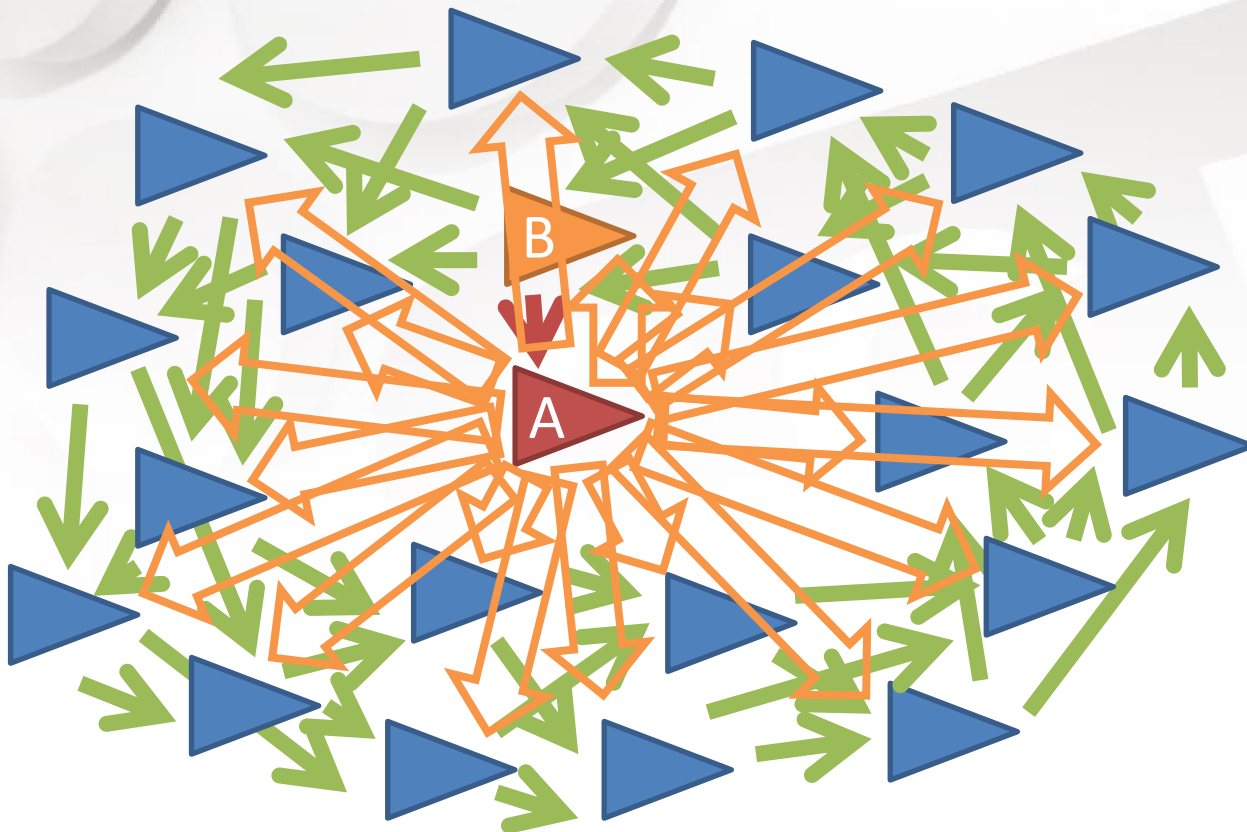




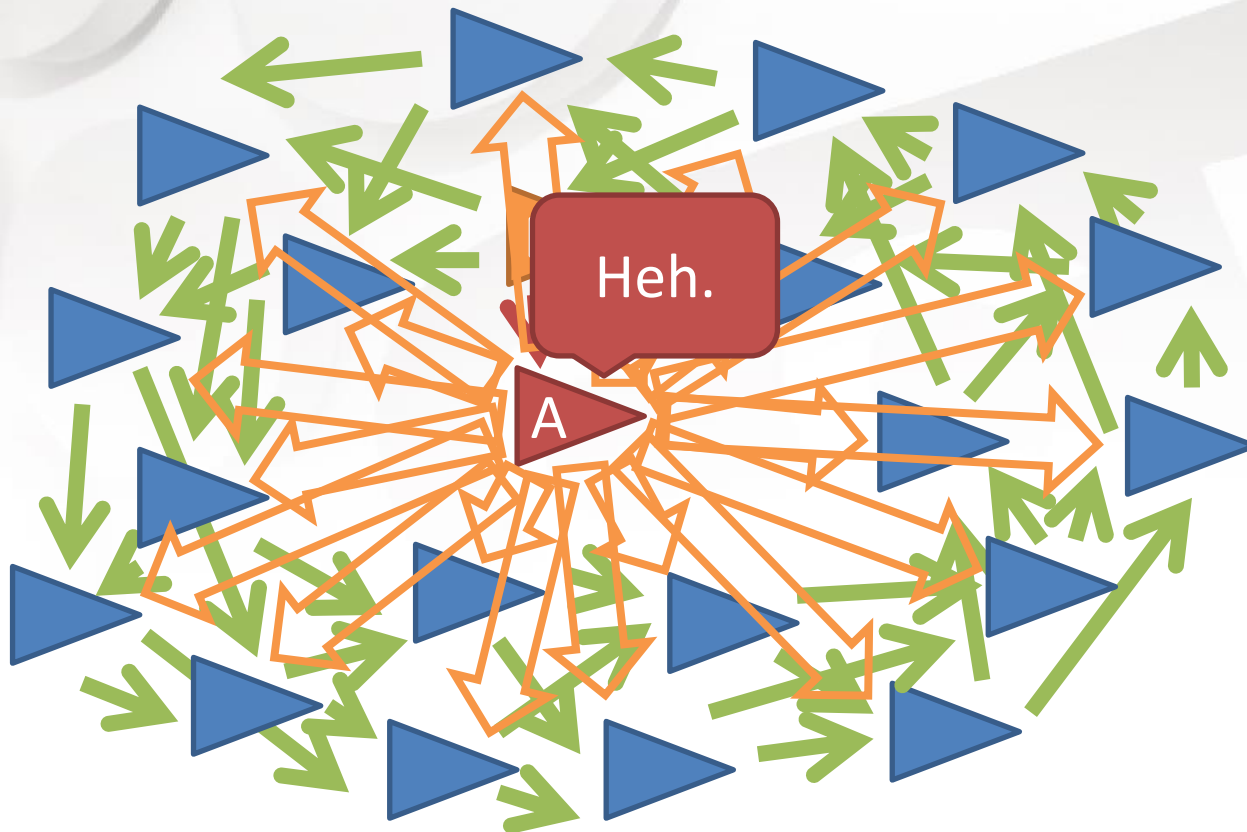
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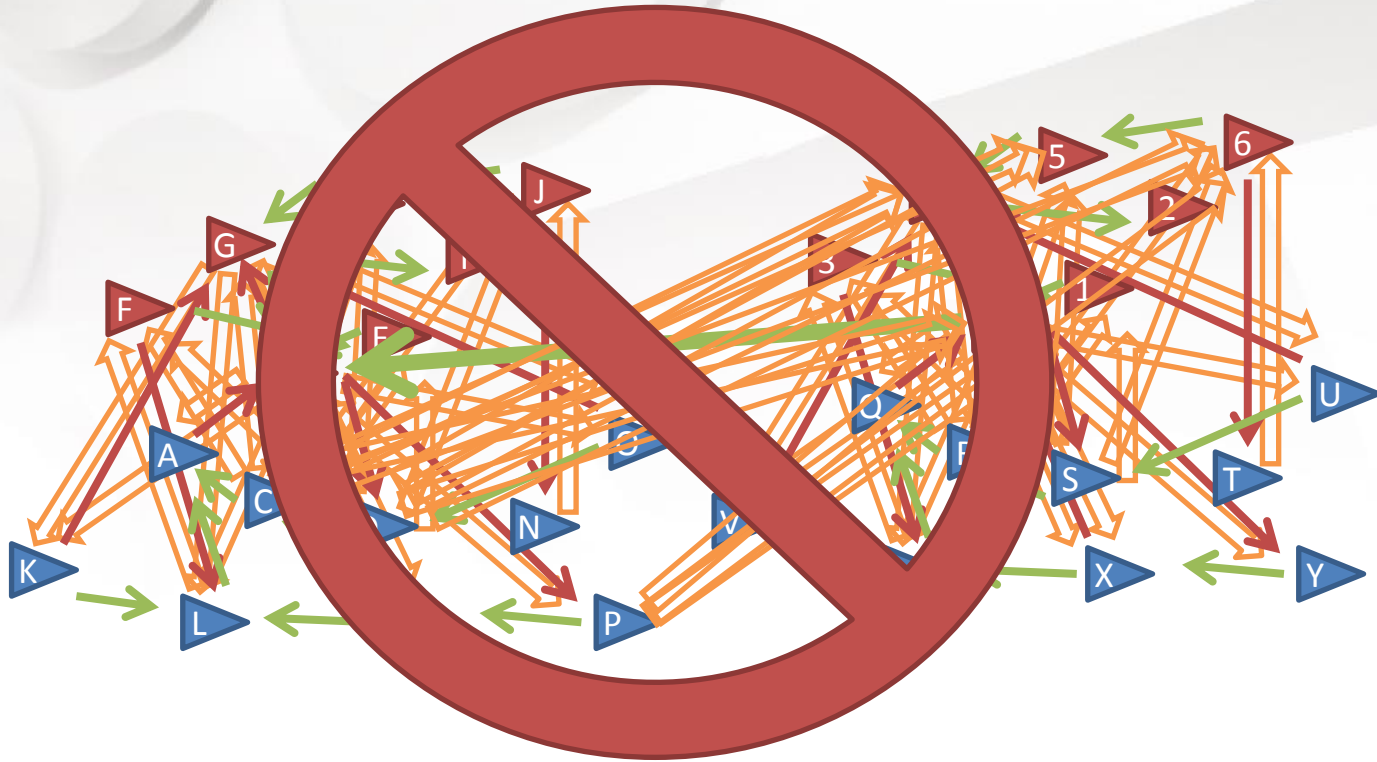
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Abusing this for fun and profit



Aggression graphs are an abomination before God





Why Crimewatch 1.x was terrible

1. Complexity breeds complexity
2. Leveraging intuitive fairness
 - 2a. Aggression graphs

Crimewatch 2.0 fundamentals



Goals

- Good UI



Goals

- Good UI
- Maintain current balance



Goals

- Good UI
- Maintain current balance
- Simple and understandable



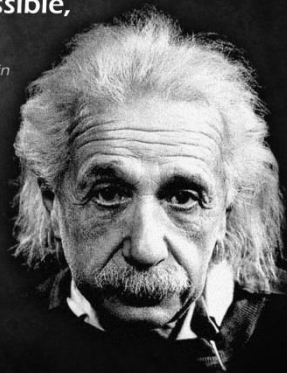
Goals

- Good UI
- Maintain current balance
- Simple and understandable
- **Will not break**

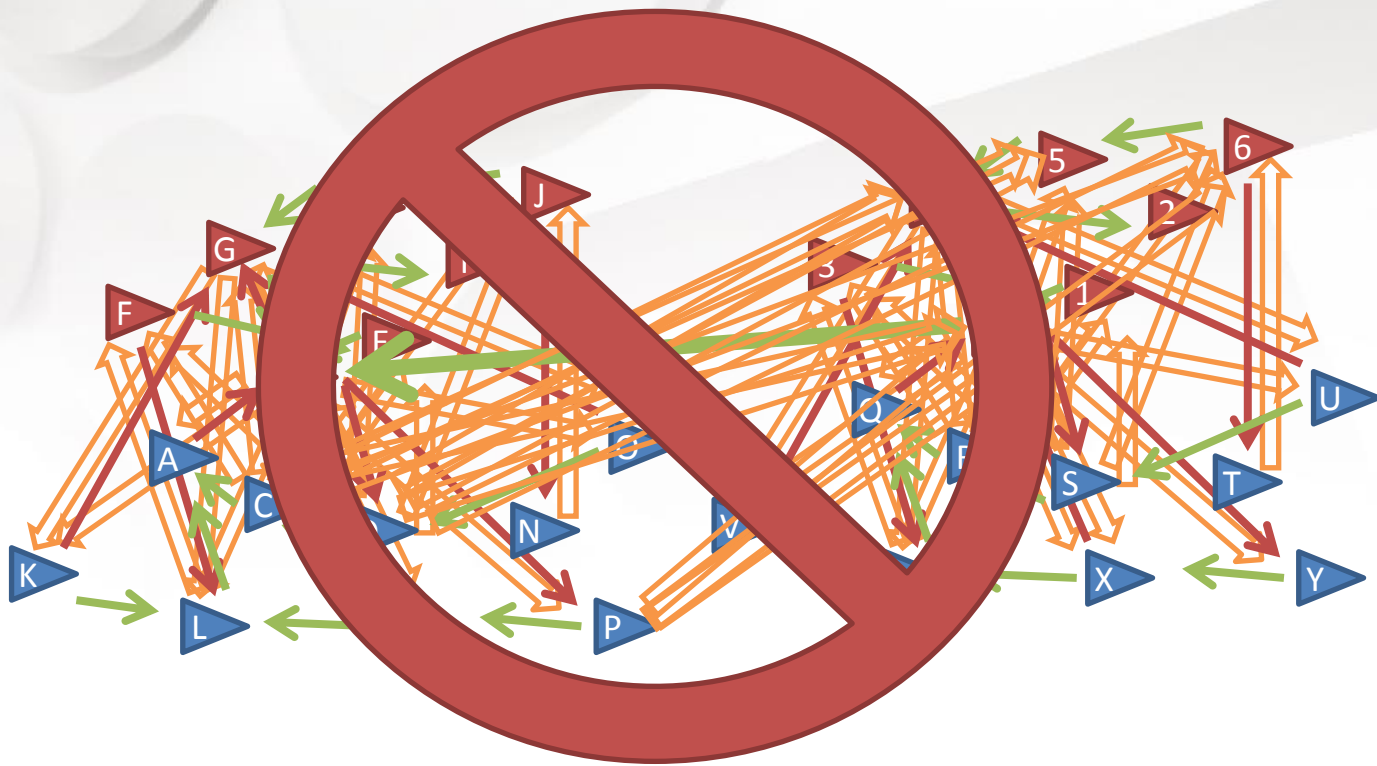
Simple and understandable

Everything
should be made
as simple as possible,
but not simpler.

Albert Einstein



Simple and understandable



Simple and understandable



Suspect

Choices:

- Illegal aggression in lowsec
- Assisting a suspect

Consequences:

- Anyone can attack without penalty
- Expires after 15 minutes



Criminal

Choices:

- Illegal aggression in hisec
- Assisting a criminal

Consequences:

- Anyone can attack without penalty
- CONCORD will engage in hisec
- Expires after 15 minutes



Simple and understandable

- “Balance” is about quality of outcomes



Simple and understandable

- “Balance” is about quality of outcomes
- “Fair” is about *predictability*



Will not break



Will not break





Will not break

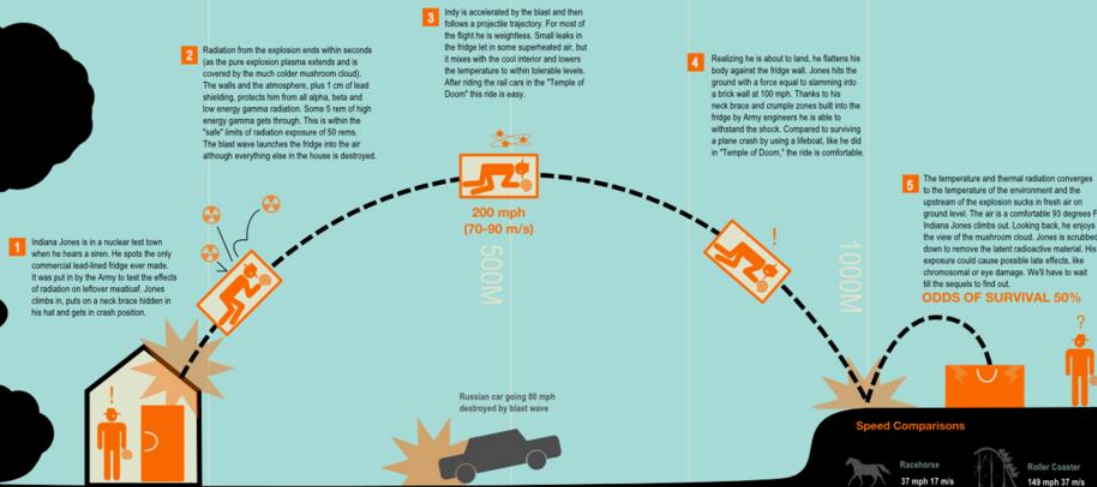


CW2 safety switch UI

"Bomb-proof"

HOW INDIANA JONES SURVIVED NUKING THE FRIDGE

In the movie "Indiana Jones and the Kingdom of the Crystal Skull" Indiana Jones survives the explosion of a nuclear bomb by cleverly ducking in a refrigerator. While most believe it's impossible, George Lucas has said that he has scientific evidence that his odds of survival are "50%". Let's take a closer look at the scene and see how Jones seems to defy physics and common sense to survive.



Practical issues



Two consequences of simplicity

- Negative: could not balance security-status penalties perfectly

Lower bound
for balanced
“ganking”
penalty

Upper bound
for balanced
lowsec fighting
penalty



Eventual
compromise that
satisfies neither



Two consequences of simplicity

- Negative: could not balance security-status penalties perfectly
- Positive: sentry gun balance much improved



A sentry gun, yesterday

The sacrifice we had to make on the altar of legacy features



*War declaration
evemail*

The sacrifice we had to make on the altar of legacy features



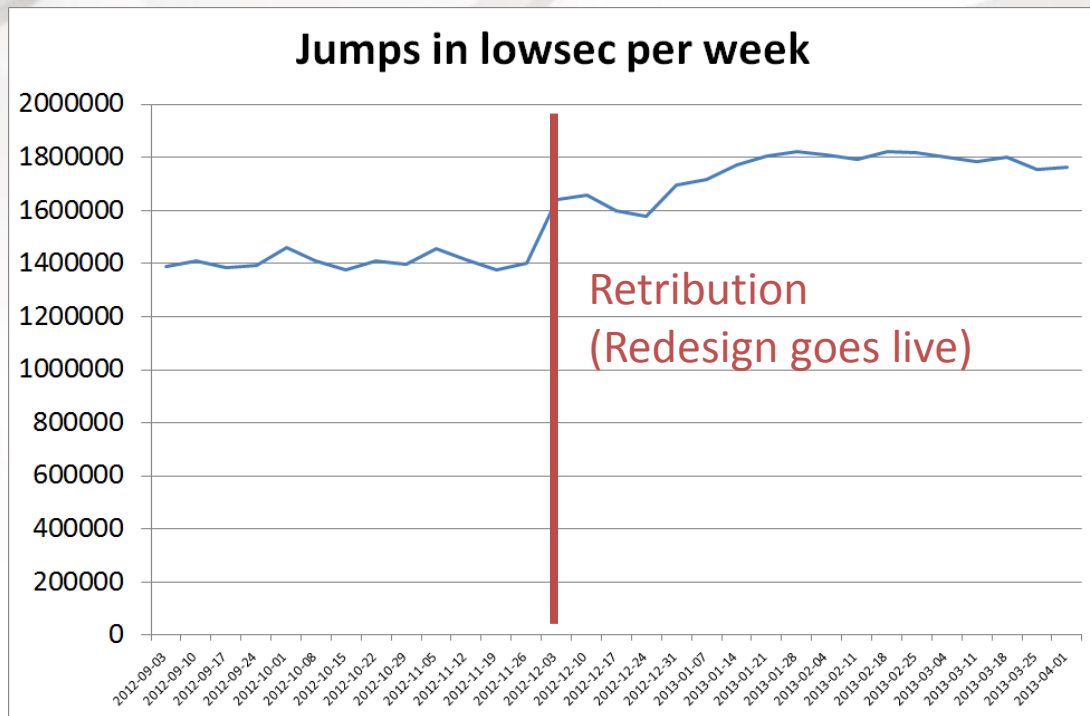
*CW2 limited
engagement UI*

The end result

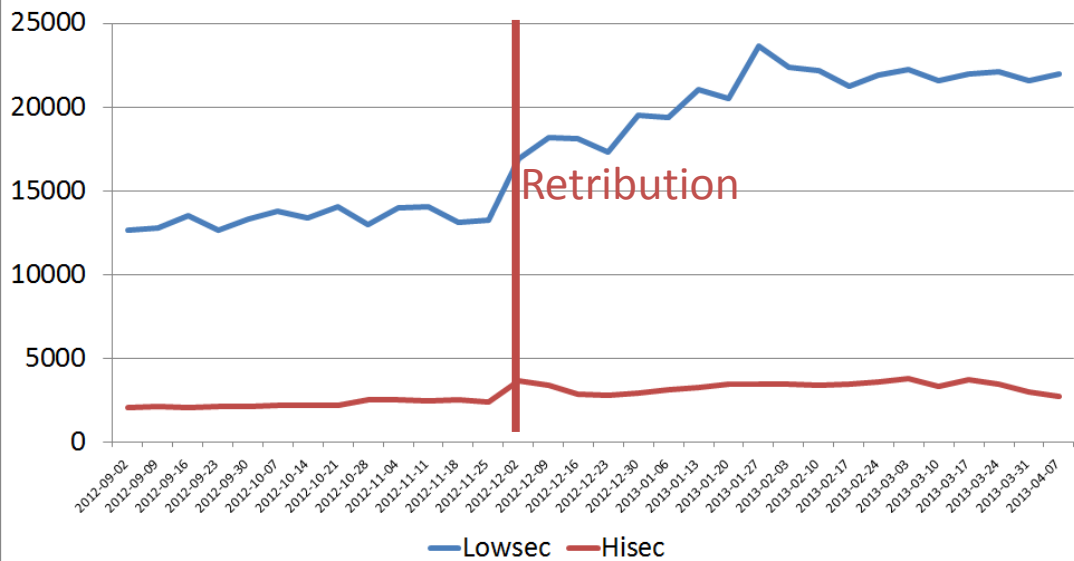


Everything worked.

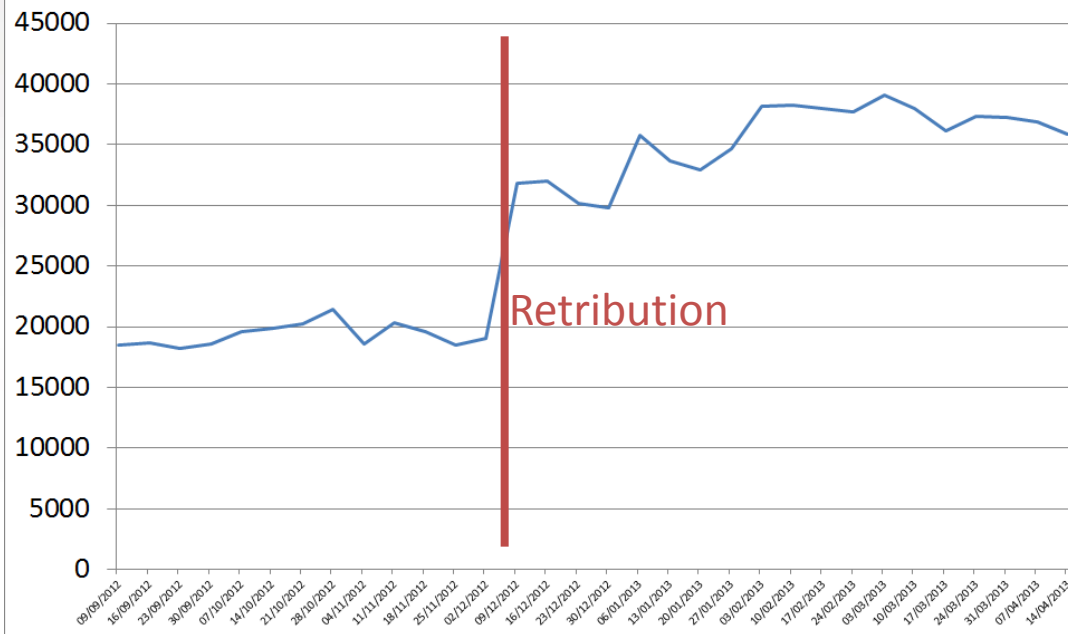




Characters receiving Security-Status penalties per week



PvP kills in lowsec per week



Summary Time

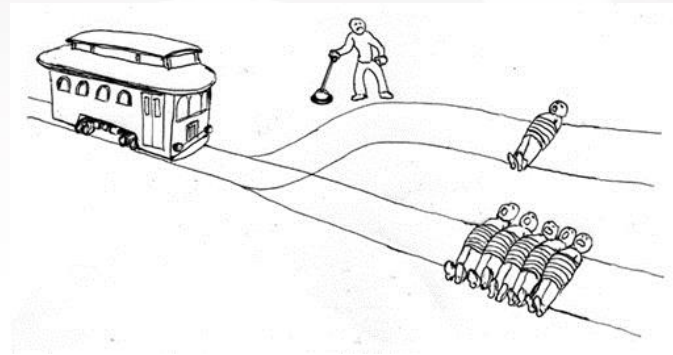


A summery day

-

Summary Time

- Don't "fix" complex systems with more complexity
- Don't rely on intuitive sense of fairness



Summary Time

- Don't "fix" complex systems with more complexity
- Don't rely on intuitive sense of fairness
- Don't use aggression graphs they are bad

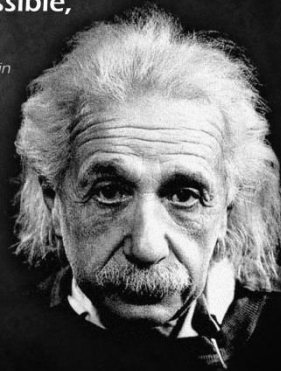


Summary Time

- Don't "fix" complex systems with more complexity
- Don't rely on intuitive sense of fairness
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Everything
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Summary Time

- Don't "fix" complex systems with more complexity
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- Do stay simple
- Do use enforce assumptions
- Sometimes life isn't perfect



Summary Time

- Don't "fix" complex systems with more complexity
- Don't rely on intuitive sense of fairness
- Don't use aggression graphs they are bad
- Do enforce assumptions
- Do strive for simplicity and robustness
- Sometimes life isn't perfect

