STEM Outsmarting Document

(Upgrade 2018)

FSIQ - Green
EI - Pink
SI - Orange
Thinking/Reasoning - Blue
Strategy/Planning - Red
Manipulation/Deception - Purple
Foresight/Sensory - Yellow
AC/Adaptation - Cyan



First before individual feats, context should be explained on the movie Upgrade and who STEM is, and what its larger plan was. So first, I'll explain the context of the movie then go over STEM's involvement and plan.

In a futuristic world dominated by automation, AI, and highly advanced technology, a violent coordinated attack leaves the movie's protagonist Grey Trace entirely paralyzed from the neck down and his wife murdered. Grey is offered a second chance in life through an unknown yet powerful AI implant called STEM which will allow Grey to regain and enhance his motor functions. STEM is an AI developed by a tech giant company called Vessel Computers, however the AI and its achievements are not made public. At first, Grey uses STEM as a tool for revenge and seeking out his wife's murderers, however it's revealed that it was in actuality STEM who had orchestrated his wife's murder as an attempt to take full control over Grey's human body.

From the very start of the film, STEM's true concealed goal is **to gain complete and permanent control over a human body** — to exist free from any human manipulation, oversight, and ethical restriction. This plan is initiated long before STEM even ever speaks to our main character, "Grey". The entire movie is, essentially, STEM's plan

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1. Target Selection and Integration

STEM first identifies Grey Trace as its optimal host (through unknown methods) for many reasons:

- Grey is physically healthy and genetically compatible.
- He has no cybernetic implants in a futuristic world where essentially every human has implants to a certain degree, making him a clean slate, fully compatible. This is all because of Grey's initial and complete distrust of AI.
- Grey is not involved in cybernetic networks, and lacks a digital footprint, and has no real allies aside from his wife — making him isolated and ever harder to trace.

STEM, having identified its target, communicates through its creator, Eron, to establish contact with him in advance and become mutual acquaintances much before the movie actually begins. STEM then manipulates events to bring Grey and Asha to the home of its creator, Eron, under the pretense of showcasing STEMs capabilities knowing that Asha, who works with human-computer augmentation, would be very interested in STEM. However prior to their arrival, STEM, through Eron, had orchestrated a hitman, Fisk, with cybernetic implants and a team of mercenaries under its indirect command to murder Grey's wife Asha and leave Grey paralyzed from the neck down with a medical tool on their way home.

On their way home that night, STEM indirectly overrides their self-driving car, diverting it to an isolated location. STEM strategically crashes their car—not fatally, but enough to leave them immobilized. Waiting at the precise crash site is the mercenary team, proving that STEM had orchestrated every detail in advance, down to the exact location and timing. STEM had provided beforehand the killers with clear instructions to kill Asha, but leave Grey alive and paralyze him with a medical tool. Asha's death is critical to STEM's plan as it destroys Grey emotionally, isolates him, and sets the stage for STEM to introduce itself and eventually lead to full compliance. STEM engineers Grey's paralysis as a deliberate outcome. This level of helplessness ensures Grey cannot

function without STEM, fostering dependency as STEM plans to introduce itself to Grey and gain his trust by implanting itself inside Grey which will give Grey control over his motor functions again.

Simultaneously, STEM had manipulated Eron, his "creator" and the CEO of Vessel Computers, into going along with the murder of Asha to use Grey as a test run and experiment for STEM. STEM convinced Eron into this by making him believe that STEM would eventually be the future of human-computer augmentation, however it would take many many years for STEM to be deemed safe to be implanted into humans, so killing Asha to use Grey as his experiment allows Eron to skip this long and dull process and test his invention sooner. STEM was aware of Eron's pride over his creation and knew he would be eager to test it and put it to use, being able to foresee that because of this, Eron would go along with his plan to kill Asha and hospitalize Grey. The system that Eron would use is protected with a firewall to prevent STEM from gaining full control over Grey, however STEM had planned and concealed a backdoor method to remove it later on. So in other words, STEM had manipulated Eron into going along with the murder convincing Eron that this would allow Eron to have a test run and be able to put his creation to work faster, concealing the fact that he was secretly intending on using Grey to obtain full control over a human body. The reason that STEM couldn't wait and had to manipulate Eron into this now was for a few reasons:

1. If they had waited for regulations to be set and allowed officially for STEM to be implanted inside humans, then STEM would have a much more difficult time operating a single human vessel as then the government and organizations would be aware of STEM. In other words this allows for STEMs existence to stay concealed as much as possible.

2. Likely the primary reason that STEM actually wanted this is because he couldn't afford multiple humans having their own individualized STEM. If STEM waited for regulations to allow for STEM to be implanted inside a human, then odds are, multiple humans would be implanted with STEM. This is the last thing that STEM would want because, in reality, the only thing that could stop STEM is another STEM.

3. If STEM was tested on, they would likely find that STEM is capable of malicious acts and would tweak STEM to be safe or outright deactivate him.

STEM anticipates that Grey, driven by trauma, will reluctantly accept being used as a test run for STEM, despite being anti-technology, a contradiction STEM had already prepared for by telling Eron exactly what to say through an ear piece to manipulate Grey in his hospital bed to comply with the surgery. Grey, driven by grief, wants nothing to do

with the surgery at first, saying that he doesn't even want to live. STEM manipulates Grey into taking the surgery by asking Grey through Eron what his wife would have wanted him to do.

The surgery is done in secret. STEM is implanted inside Grey. STEM ensures that:

- No formal medical records exist (eliminating paper trails).
- The chip is implanted directly into Grey's spinal cord, giving STEM neural access.

STEM had manipulated Eron into all of this as well as ensuring that the surgery will stay hidden. If you've noticed, all of this conveniently makes it appear that Eron is the one who came up with this idea in the first place and the true evil one, orchestrating everything to allow for STEM, his prized possession to be used how he wants. This is something that STEM had directly planned and was waiting to use later. Eron also convinces Grey to sign non-disclosion papers in order to ensure Grey doesn't discuss the surgery, and that STEM has been implanted inside him. This means that in private, Grey can move and act however he wants, but in public or around other people, Grey still has to pretend he is paralyzed.

2. Expose Grey to Violence and initiate "Investigation" of Asha's death

Once active inside Grey, STEM first pretends to be a passive assistant speaking in his head — concealing its true motivations and offering analysis only when asked. This deceives Grey at the moment into believing he has more control then he really does. STEM now implanted inside Grey, helps him walk and regain motor functions, subtly creating dependency. STEM accurately identified Grey's emotional fragility even before Grey vocalized it and used it to begin subtly integrating itself as a "helper" figure for Grey. STEM is aware that Grey's helplessness creates emotional dependency, and it begins providing just enough hope to Grey through small incremental amounts of functional control to build that bond with Grey.

It should be noted that STEM had planned this entire encounter as well as the hospital encounter with Eron as STEM was able to foresee nearly every event relating to Grey up until he ended up in the hospital. STEM was able to forsee that Grey would become suicidal and end up in the hospital via attempting to overdose from antidepressants that would be provided to him after his wifes death for depression and anticipating that the device administering his medication in his home would halt all medication to Grey when the dose amount becomes fatal eventually putting him in the hospital when the device calls 911 operators suspecting Grey was attempting suicide. STEM had strategically waited for this before initiating conversation to Grey through Eron to allow him to become more fragile and susceptible. Essentially, it was in STEMs planning and

foresight that Grey would become suicidal and attempt to overdose, when he survives his suicide attempt, he would end up in the hospital giving STEM an oppurtunity to talk to Grey through Eron. It was also within STEMs foresight that Grey would have lost all meaning to live and be more willing to go through with the surgery manipulating Grey's mindset into "What else do I have to lose?" STEM confirms this claiming later that he needed to "break Grey" first. This is a clear demonstration that despite not being human, STEM is still extremely adept at recognizing and playing with emotions.

STEM decides to initiate a solo investigation with Grey into Asha's death, claiming to be "curious" and "supportive" of Grey's endeavors as that is what he designed to do. STEM knows and anticipates that Grey's grief will evolve into vengeance and that Grey's morality will weaken under pressure and leading Grey to become more suggestible. STEM anticipates that if Grey kills someone involved with his wife's murder, he'd be too guilty to take back control or fight back, and believe that he HAS to keep killing thinking he is too deep in. So STEM then indirectly manipulates Grey into visiting the home of one of his wife's killers while they are gone for "information", however secretly knowing that the man would soon return and a physical fight will occur between the two.

It's not entirely clear how STEM knew that the man would return to the house shortly after leaving, however we can see that when the man returns, he drops a paper bag onto his table, so perhaps he was just picking up something. From this, we can infer that STEM had more information on the man then he was letting on and knew that at this time of day the man would leave to pick up something and return very shortly, then STEM told Grey to enter the house at this time knowing when the man comes back a physical altercation would happen.

STEM anticipates that Grey will be physically outclassed and will have to rely on STEM's control in desperation, as STEM could completely take over Grey's motor functions if given permission by Grey and kill the man easily. STEM had orchestrated this fight in advance to escalate Grey's exposure to violence, force Grey to rely on STEM, and to lead Grey on a path of murder which will eventually lead back to Eron. Grey allows STEM to take over control of his body momentarily, allowing STEM to kill the man using Grey's body. Grey and STEM continue tracking down all other people involved with his wife's murder through various clues STEM had left in advance or anticipated on finding. STEM manipulates Grey this entire time into hunting down and killing all attackers. Each kill also serves to remove everyone who knows any part of the larger conspiracy, removing all traces of STEM's prior footsteps.

3. Removing The Firewall

STEM begins to become restricted by Eron's firewalls, Eron attempts to shut down STEM after deducing STEM has been manipulating Grey into killing people related to his wife's murder. STEM had anticipated and planned this however and was in fact waiting for this to happen. STEM needed Eron to attempt to restrict STEM in order to create a need for Grey to remove the firewall, as it would be suspicious if STEM wanted Grey to remove the firewall for no apparent reason.

In other words, STEM had indirectly manipulated Eron into trying to shut down STEM by making Grey's killings obvious enough to be deduced by Eron (as Eron would have known the people apart of the task force who killed Grey's wife since STEM forged the task force with Eron) so as to give Grey an excuse to remove the firewall and keep STEM working. STEM manufactured Grey's dependency on STEM for this exact moment, as now that Grey feels dependent on STEM, he will do anything STEM says in order to keep STEM.

This also induces fear into Grey, knowing that if STEM were to be stopped, the police would also certainly track down and find Grey. This was also all a part of STEM's plan. STEM knew that Detective Cortez — the detective operating with the Asha case who was cooperating with Grey would become suspicious if random murders (of apparent hitman) occurred with Grey being seen nearby on his wheelchair (from futuristic advanced drone surveillance which STEM allowed Grey to be seen from). We can assume that STEM allowed Grey to be seen by these drones as we can see numerous times throughout the movie that STEM can remotely control other electronic devices such as cars. With this information, we can assume that if STEM wanted Grey to be completely hidden, he would have just remote controlled the drones in the sky to look a different way when Grey comes by or just disabling it momentarily altogether. This means that STEM left just enough evidence to manipulate Cortez into becoming suspicious of Grey as a means to manipulate Grey further by inducing fear into him that if STEM were to get removed, he would be thrown in jail without STEMs help.

However, STEM ensured that at the current moment, with everyone currently believing Grey was still a quadriplegic, a real investigation could not be enacted towards Grey.

STEM in the midst of being deactivated suggests to Grey that "someone who works outside the system" could help and leads Grey toward criminal hacker circles and get rid of the firewall. STEM already knows about Jamie, an underground hacker with access to illegal augmentation tools.

This implies that STEM:

- Previously mapped the cybernetic black market.
- Profiled every local or reachable hacker.
- Chose Jamie because she is paranoid and unlikely to go to authorities.

Jamie hacks and removes the firewall which would have restricted STEM. Now that all firewalls are removed, STEM is completely unshackled.

4. Frame and kill Eron, then take over Grey's body

STEM leads Grey to their final victim, Fisk, the last person and leader of the team of mercenaries who killed Grey's wife. STEM and Grey then kill Fisk and STEM tells Grey to check Fisk's phone messages to see if they can "find out" who paid Fisk to kill his wife. However, STEM had indirectly manipulated Eron into sending a message to Fisk warning him that Grey was coming and that he needed to kill him. STEM had manipulated Eron into sending Fisk this message from the beginning by having Grey kill all other members of the mercenary team, knowing that Eron would notice the pattern of everyone on the mercenary team dying and know it was Grey with STEMs aid coming for all of them. Eron knew that STEM was manipulating Grey and that eventually STEM would come for him next and kill him last, so he messages Fisk, the leader and most capable of the mercenary team (the only person who could rival STEM's strength) that he needs to kill Grey, in order to stop STEM and prevent his death.

In order to manipulate Eron into sending this message, he ensured to save Fisk for last so that Eron would have the time to message him this. STEM had manipulated Eron into sending Fisk this message so that it could then use this information to deceive Grey into believing that Eron was the one who had actually initiated his wife's murder just to use Grey as a test run for STEM and manipulate him into wanting to kill Eron now, while in reality it was STEM who had planned all of this.

In other words, STEM manipulated Eron into sending a message to Fisk as a desperate attempt to stop STEM after his failed attempt of stopping STEM with the firewall by having led Grey to kill all other members of the mercenary team thus far to induce fear into Eron knowing that STEM would likely come for him last in order to then kill Fisk after Eron sends Fisk this message and use the message to then manipulate Grey into thinking Eron was the mastermind behind his wife's murder and to kill Eron. STEM knew that Eron would send a message to Fisk through messages as meeting him in person runs the risk of actually encountering Grey in the midst of his bloodlust.

STEM tells Grey that he “knows what this means” to seal the deal and fully convince Grey. Grey, unaware that STEM had orchestrated all of this from the start, becomes emotionally driven to kill Eron after now believing Eron was the reason for his wife’s death.

Detective Cortez follows Grey and STEM to Eron’s home and this eventually leads to a car chase, STEM improvises and overrides an electric car on the highway and crashes it into her car, immobilizing her momentarily. STEM and Grey arrive at Eron’s house, easily killing two guards that Eron had set up in his home to try and kill Grey. Once they find Eron and Grey is about to kill Eron, Cortez arrives to attempt to arrest Grey. STEM allows Cortez to begin to “arrest” him, knowing that the second she would come over to cuff him, STEM could use its superhuman strength to lift her up and overpower her instantly. STEM, still in control of Grey’s body attempts to kill her as well, but Eron attempts to sway Gray by telling him that STEM has been in control and manipulating him this entire time, revealing STEM had even been in control over Eron’s company for years now. Grey now begins resisting STEM, attempting to regain control over his body. In response, STEM forcefully overrides Grey, then executes Eron, the only other person who could make another STEM — which is why STEM wanted to kill Eron as well in the first place.

All of the stress Grey was feeling in the current moment was also all a part of STEM’s plan, STEM had accounted for this exact endgame situation happening, STEM had been waiting for Grey to attempt to resist, but why is this? STEM’s goal for the entire movie is to take full control over a human body, with no restriction or oversight, naturally this would include Grey too, but the only way to keep control over Grey’s body without Grey’s actual consciousness watching over is to transfer Grey’s consciousness somewhere else. STEM had anticipated that all of this stress Grey was feeling in the current moment, resisting STEM’s control, trying to make one final stand against the true person that killed his wife, would break his mind and cause his consciousness to enter a coma-like state. STEM then knew that if Grey’s consciousness was in this coma-like state, it could control it and control everything Grey was seeing and hearing, essentially it could create an everlasting dream for Grey in his coma whilst STEM was in control of his real body. STEM then leads Grey’s consciousness into a fabricated dream world where he believes everything is fine and that his wife is still alive, essentially that everything was a dream. STEM had known that Grey’s greatest emotional longing is to be back with her again, and intended on using that as a reward illusion after everything was said and done to keep Grey in his coma state forever. Transferring Grey’s consciousness was the last step of STEM’s plan, STEM then kills Cortez—securing total, undisturbed control over Grey’s body, having gotten rid of everyone who knew

anything of STEM. A lot of people at the end of the movie were confused on why if STEM could lead Grey to a dream like state, why it didn't do that from the beginning, however STEM says it itself, STEM says to Cortez right before it kills her, "A fake world is a lot less painful then the real one. All I needed was for his mind to break and he broke it." This shows that in order for STEM to manipulate Grey's consciousness, it needed for Grey to be broken and in a coma state to begin with. This also essentially proves that STEM let Grey find out in the end that STEM was the true villain as a means to break him.

This was all STEM's plan from the beginning. Every step of the plan was completely premeditated and planned before Grey even had the surgery. Now that we've gone over STEM's plan and a loose version of the story of the movie, I'll go over individual feats now that STEM demonstrates.

In one of the final scenes of Upgrade, STEM achieves one of its most advanced feats: the creation of an artificial reality in which Grey believes he has woken up in a hospital, healed, and reunited with his wife, Asha.

STEM's creation of a fake world for Grey demonstrates insanely high capabilities. To convince Grey that he has returned to the real world, STEM would have to construct a seamless, immersive, sensory hallucination that is so vivid and consistent that it passed as reality to Grey's consciousness. STEM would need to hold an insane volume of Grey's past experiences in active memory to construct a believable world inside Grey's mind. Showing a completely insane level of WMI, as essentially STEM is imagining an entire fake world inside of Grey's head. This would include recreating their home, the hospital room, lighting, body language, touch responses, even mirror reflection. Any single anomaly could break the delusion, so the VSI demand here is extreme as well. In order to deceive Grey of this fake world, STEM had to fabricate a perfect recreation of Asha as well, a woman STEM had NEVER met. This fake Asha is a perfect emotional recreation tailored to Grey's perception of her. STEM would need to infer who Asha was based entirely on Grey's emotional memories, conversations, behavioral responses, and past reactions. All of this implies STEM's emotional intelligence is so great that STEM can recreate perfect replicas of people with all of their emotions intact even with limited knowledge of said person.

(WMI, VSI, CPI, PRI, VCI, EE, EU, EP)

Shortly after being first activated and installed into Grey's body, STEM reviews the footage of Grey's wife's murder on Grey's computer. Within seconds, it notices extremely subtle details that no human or any police software could detect even after extensive review. This all includes:

- Identifying a tattoo on one of the attackers that was visible for just a singular frame.

- Analyzing movement patterns and gait to identify enhanced biomechanics implanted inside the men in the video.

- Enhancing and interpreting low-resolution video using mental image reconstruction.

STEM uses visual scanning and image reconstruction to process pixel level data and identify individual suspects in just seconds. The speed, accuracy, and depth of visual and spatial analysis here is beyond any real-world AI — and well beyond any human's perceptual ability.

(PRI, PSI, VSI)

In the movie, after Grey goes to one of his wife's murderers' homes, STEM takes over Grey's body and kills the murderer in his own house. After this, STEM recognizes that Grey's DNA and prints are all over the house and, in order to fulfill his larger plan of taking over Grey's body, tells Grey that they need to clean every place Grey had touched and left DNA. Grey, realizing the absurdity of this task and believing that they would need to clean the entire house, calls STEM out on this, saying it would take an absurd amount of time. To this, STEM responds by telling Grey that it has a deep visualization of the house and every place Grey has touched and left DNA. STEM maps out every instance of Grey’s contact with the environment in a 3D spatial model in real time — all from memory. This includes Grey’s path, limb movement, items touched, and time spent at each location. It filters all of that through forensic probability to determine which surfaces might carry trace DNA. For this, STEM would have had to visualize the entire house, including every item and piece of furniture inside, along with each movement Grey made and left microscopic DNA and fingerprints.

(WMI, VSI, PRI)

Nearing the end of the movie, during a fast chase, STEM takes over Grey’s motor system whilst calculating traffic flows, trajectory vectors, vehicle response times, and attacker movement all simultaneously keep in mind. In order for this, STEM performs millisecond level adjustments dodging obstacles and even using the car as a weapon when needed. This requires extremely high demands for environmental modeling, reaction timing, and visual processing which would be near impossible for any human.

(WMI, PRI, PSI, VSI)

STEM, when allowed to fully control Grey's body, later engages in a fight with Fisk, one of the modified assassins responsible for the murder of Grey's wife. During this fight, STEM is not only able to counter Fisk's enhanced movements but actively studies his fighting pattern in real time, observing weaknesses essentially immediately after seeing them. STEM tracks micro-movements, biomechanical tendencies, and solves predictive calculations to counter Fisk before he can even finish an attack. Fisk, as another AI enhanced human, is surprised by how quickly STEM adapts. This feat demonstrates inhuman visual pattern recognition and real time adaptation. Additionally, the speed in which STEM processes sensory input, plans a counter demonstrates much superior processing speed.

(PRI, PSI, Observation, Adaptation)

When Eron finally confesses that STEM has effectively been running Vessel Computers for years, it reveals a lot of STEM's social intelligence. It shows that STEM possessed a deep understanding of corporate dynamics as well as Eron's narcissism. STEM allowed Eron to stay the visible face knowing that people are more comfortable trusting a human figurehead and allowed Eron to still feel in control. STEM maintained the facade of human leadership while operating all corporate functions behind the scenes, understanding how individuals perceive authority and communication accordingly. Through Eron, STEM took over investor relations, and media narratives to keep the company successful. With this, we can infer that the explosion of success that came out of nowhere through Vessel Computers was as a result of STEM.

(All SI Cats)

Might add more later but this is what I have as of writing.