1「与上级/同事产生分歧，最后达成一致并取得成果」（情境1）

- **核心看点**：冲突 -> 坚持己见/寻求妥协 -> 行动过程 -> 最终结果/反思。
- **可覆盖的领导力题目**：
- **Have Backbone; Disagree and Commit**（所有围绕"坚持、冲突、妥协"的题）
- **Earn Trust**（你如何沟通、化解分歧，最终让对方相信你的想法）
- **Are Right, A Lot**（如果过程中涉及到你如何做决策、判断，对错结果的复盘）

Situation:
In our Online Coding Judgement System project—a collaborative effort between a teammate and me—I was responsible for the judging service while my teammate focused on the front end. Our initial design allowed the system to handle code submission, execution, and result retrieval in one flow. However, I identified an opportunity to significantly improve performance by decoupling the judging process using a message queue. My teammate was concerned that this change would delay our project and add unnecessary complexity, as she preferred a quick finish to showcase on our resumes.

Task:
My goal was to convince her that the performance optimization was worth the extra effort, without jeopardizing our timeline. I needed to address her concerns while demonstrating that this improvement would not only boost performance but also make our system more robust and closer to a real-world application.

Action:

1. **Open Discussion:**
   I initiated a conversation with my teammate to fully understand her concerns. She explained that a quick project completion was important for resume purposes and that a simple design would be easier to manage.
2. **Data-Driven Explanation:**
   I shared insights from my previous project (AaronFlow), where decoupling tasks significantly improved performance. I explained that decoupling—in this case by introducing a message queue—would help manage workloads more efficiently and enhance scalability, without needing a complete redesign of the system.
3. **Proposing a Compromise:**
   To balance our priorities, I proposed we only modify the judging part of the system. This way, we could introduce the message queue to improve performance while keeping other parts of the project intact, ensuring that the overall changes were minimal.
4. **Implementation:**
   After reaching a mutual agreement, I quickly implemented the change. The optimization took just an additional two days, and I ensured that the new design was well-integrated and did not disrupt our existing workflow.

Result:
The optimized judging service performed significantly better in our tests, with noticeable improvements in system performance. Both my teammate and I were very satisfied with the outcome. Not only did we deliver a working product on time, but we also enhanced the system's

scalability and real-world applicability. This experience reinforced the value of open communication, compromise, and standing by well-researched ideas.

2「资源/预算严重不足，想办法节约成本或创新搞定」

- **核心看点**：问题 -> 资源限制 -> 创造性解决方案 -> 结果/成本节省/收益提升。
- **可覆盖的领导力题目**：
- **Frugality**（所有"省钱、省时、省资源"的题）
- **Deliver Results**（在资源不足情况下如何依然取得结果）
- **Bias for Action**（如果强调你在资源不够的情况下，短时间内快速做决策并行动）
- **Dive Deep**（如果过程中有较深入的数据分析或根因排查

Situation:

For my final year project, I was tasked with using machine learning to analyze 3D microscope images. By analyzed the distribution of protein, researchers can predict cell's life-cycle stage accordingly. Initially, because the lack of communication, I assumed that the core challenge was 3D image segmentation. I built a complex solution that using 3 dimensional method and several algorithms to ensure data consistency. However, during lab testing, I encountered several issues: differences in lab devices led to dependency problems, and most computers there didn't have a GPU, so the computational load made the analysis too slow.

Task:
I quickly realized that a practical, resource-efficient solution was necessary. My goal became to design a more efficient ML workflow that could run quickly on a variety of devices and still deliver accurate results, but not just assuming the ideal factors like the HW.

Action:

1. **Deep Dive & Research:** I conducted a thorough analysis of the available devices and the dataset. I reviewed relevant literature and consulted professors with AI expertise to understand the trade-offs.
2. **Resource-Conscious Redesign:** Considering the limited computing resource available, I shifted my strategy from full 3D segmentation to a hybrid approach—using 2D analysis combined with metadata restoration. This allowed for much faster processing on CPU-only systems while still capturing essential 3D information.
3. **Rapid Decision-Making & Automation:** I streamlined the entire configuration process with script to make deployment as simple as possible across different computers so that researchers can use them easily.

Result:
The redesigned ML solution ran successfully on multiple lab computers and achieved significant performance improvements with fast speed. This workflow not only deliver results under limited resource conditions, but it also generated more training data from a limited dataset. This innovative approach was well-received and won the prize, and eventually led to a publication in BMC Biology, which is one of the top science journal.

3「客户/用户遇到难题或比较棘手的需求，超出期望地解决」

- **核心看点**：客户问题 -> 你如何理解、沟通 -> 你如何超预期完成 -> 效果与反思。
- **可覆盖的领导力题目**：
- **Customer Obsession**（几乎所有"客户互动"/"超出客户期望"的题）
- **Earn Trust**（你如何让客户或团队对你产生信任？）
- **Deliver Results**（如果故事包含你如何把客户反馈落地成结果）
- **Bias for Action**（如果情境中客户问题紧急，需要迅速响应）

Situation:
While working on a project for a client from AMX, I discovered that their machine translation system was producing low translation accuracy. Despite their attempts to improve the model by retraining it with different parameters, the results showed no significant improvement.

Task:
My responsibility was to determine why the translation accuracy remained low. I needed to understand the root cause of the issue by engaging with the client, reviewing their process, and collaborating with my team to identify and implement a solution—even if it meant suggesting changes that required extra time and budget.

Action:

1. **Engage and Understand:** I initiated a brief but focused meeting with the client to walk through their entire process for producing the AI model. During this discussion, I carefully gathered information about their workflow and pinpointed potential areas of concern.
2. **Collaborative Analysis:** After the meeting, I discussed the collected data with my team. Although the training parameters and processes appeared correct, we hypothesized that the quality of the datasets might be the underlying issue.
3. Propose a Dual-Pronged Approach:
    - **Validation Experiment:** We conducted an experiment by concurrently retraining the model using an alternative, higher-quality dataset. This allowed us to test our hypothesis quickly without significantly delaying the project.
    - **Immediate Enhancement:** Recognizing that rebuilding the dataset would require extra budget and time, I introduced an additional processing layer targeting the error-prone classes. This innovation provided a near-term improvement while the client considered a long-term data overhaul.
4. **Communicate Findings:** I then organized a follow-up meeting with the client to present our analysis and experimental results. We demonstrated that the dataset quality was likely the key factor impacting performance, and our dual approach had led to a significant improvement.

Result:
The client accepted our recommendations after reviewing our findings. Although building a new dataset would require additional investment, they committed to updating it for sustained improvements. In the meantime, the extra processing layer I implemented resulted in a 13% increase in translation accuracy without needing a new dataset. This solution not only resolved the immediate problem but also set the stage for better model performance in the future.

4「发现/面对一个复杂问题，深入分析（Dive Deep），找出根因并解决」

- **核心看点**：复杂问题 -> 数据/信息收集 -> 深入分析 -> 对策 -> 后续跟进。
- **可覆盖的领导力题目**：
- **Dive Deep**（所有关于深度挖掘数据、发现根因的题）
- **Deliver Results**（如果最后解决了问题，达成某些业务目标）
- **Are Right, A Lot**（如果故事里包含决策过程，以及为什么它是正确或错误）
- **Earn Trust**（如果你在此过程中和团队/经理积极沟通，建立了信赖）

Situation:
It was the AaronFlow project and I finished most part of development. However, during load testing with **wrk**, I observed that the performance wasn't as high as expected and also, the CPU usage was highly unstable. After using command-Line and performance manager, I found that there is a sudden spikes in CPU load, indicating that something deeper was affecting the system.

Task:
Although I had already applied standard optimizations like adjusting MySQL connection pools, there was still no significant improvement. I suspected that a more complex underlying issue was at play—likely on the server side—so I needed to dive deep into the system's behavior and identify the specific problem affecting CPU stability and overall performance.

Action:

1. **Data Gathering & Initial Hypothesis:**
    - I started by analyzing the server's behavior, since the worker-side (Aaron) was processing tasks rapidly without issue.
    - After reviewing system metrics and consulting various online forums and enterprise MySQL usage guides, I identified the use of the **for-update** SQL statement as a potential issue.
2. **Deep Technical Analysis:**
    - I researched the inner workings of the **for-update** command and discovered that it can generate **gap locks**, which may delay query execution and affect performance. This function is also not recommended in the book *High Performance MySQL*.
    - I then focused on the unusual CPU spikes. I observed that every time, when Aaron fetched a new task, the CPU load surged unexpectedly. This led me to dive deeper into the **for-update** and MySQL. I found that MySQL employs an automatic deadlock detection mechanism that checks for dependencies between concurrent queries—a process with a complexity $O(N^2)$. As the number of concurrent tasks increased, this mechanism significantly strained the CPU.
3. **Implementing the Solution:**
    - To address both the gap-lock issue and the heavy deadlock detection overhead, I devised a two-part solution:
        - I introduced a **distributed locking mechanism** to better manage concurrent access.

        - I implemented **randomized delays** in task invocations to spread out the load, reducing the frequency and intensity of deadlock checks.
    - These changes were tested and iteratively refined until the performance metrics showed stable CPU usage and improved throughput.

Result:
The adjustments led to a significant performance improvement: CPU usage became stable under load, and the overall system throughput increased noticeably. By identifying and solving the problem of **for-update** and the deadlock detection overhead, I not only solved the immediate performance issues but also enhanced the system's scalability for future demands.

5「时间或外部压力极其紧迫，你必须快速行动/决策」

- **核心看点**：突发紧急状况/极限期限 -> 快速抉择 -> 行动 -> 结果/教训。
- **可覆盖的领导力题目**：
- **Bias for Action**（在时间紧迫、信息不完全的情况下如何快速行动）
- **Deliver Results**（高压力或临时突发下依然完成或超额完成目标）
- **Are Right, A Lot**（如果当时信息不足，怎么权衡风险并做出正确决策）
- **Earn Trust**（如果故事中有协调多个团队、赢得他们支持的过程）

Situation:
In my Human-Computer Interaction (HCI) course, my team was developing an AI-driven application that provided personalized cosmetic and makeup recommendations. Two days before our scheduled project presentation, our professors expressed strong interest in our work and requested that we deliver a detailed, interactive product demo rather than just our paper sketches.

Task:
Despite the extremely tight deadline and our team of just four members, we couldn't afford to let the professors down. Our challenge was to quickly design and build an interactive demo that convincingly showcased our application's workflow and features.

Action:

1. **Rapid Assessment and Decision-Making:**
    - I recognized that developing a complete front-end interface in just two days was unrealistic, especially since I was the only team member with front-end experience.
    - We collectively agreed that a high-fidelity interactive demo would make a greater impact, so we began exploring tools that could help us achieve this under our time constraints.
2. **Leveraging the Right Tool:**
    - After a brief search, we discovered Figma—a platform popular among UX designers for creating interactive prototypes—which also supports real-time collaboration.
    - Although none of us were experts in Figma, we saw its potential to rapidly produce a polished demo.
3. **Structured Planning and Collaboration:**

- We convened an immediate team meeting to map out the complete application flow and identify key functionalities that needed to be demonstrated.
- Tasks were then divided according to each member's strengths, ensuring that everyone had a clear role in the demo's development.
- I reached out to a colleague with UX expertise who provided us with a quick Figma tutorial, enabling us to overcome our learning curve quickly and maintain design consistency.

Result:

- Our team successfully created a fully interactive Figma demo within the two-day deadline.
- The detailed presentation impressed our professors and showcased our product in a dynamic, user-friendly manner.
- As a result, our project not only received high praise but also won the "Most Creative Design" award from our department.

Lessons Learned:
This experience reinforced that even under extreme time pressure, a structured plan and effective delegation are far more efficient than relying solely on intuition. It also taught me the importance of leveraging the right tools and external expertise to rapidly overcome obstacles and deliver outstanding results.

6「犯了错误或决策失误，之后如何补救和复盘」

- **核心看点**：错误决策/执行 -> 造成的影响 -> 采取的补救措施 -> 反思/改进。
- **可覆盖的领导力题目**：
- **Are Right, A Lot**（并不总是对，错误的决策如何复盘与学习）
- **Earn Trust**（你如何对利益相关者坦诚、挽回影响）
- **Dive Deep**（如果你在纠错和复盘过程中用了深入的数据分析）
- **Deliver Results**（如果你在有限时间内尽量把损失降到最低，也是一种"交付结果"）

Situation:
During my junior year as an undergraduate, I worked on a three-person team to develop a wearable navigation device designed to provide users with directional guidance without distraction. This project involved both hardware and software development. We had to order various components to build the device, so while we were busy developing the software, we were also waiting for the hardware to arrive. However, due to our inexperience in project management and procurement, I failed to account for the possibility that these critical devices might not be delivered on time, and we did not incorporate a flexible schedule to address potential delays. We were overly optimistic about the project.

Task:
After completing and testing the software, we encountered a major setback: the pandemic had disrupted deliveries, and many core components—such as sensors, the double module GPS, and most critically, the mainboard—were unavailable. This situation threatened to render our prior work useless because the available laboratory hardware was different from what we had planned

for. As one of the developers, I needed to assess the situation, propose a corrective strategy, and work with the team to adjust our project goals to salvage the work we had already done.

Action:

1. **Immediate Assessment and Communication:**
    - I promptly inventoried all available devices in the laboratory and compared them with the components we had originally planned to use.
    - I compiled this information into a report and immediately communicated the situation to our supervisor. I sought approval to modify our project goals and requested guidance for revising our timeline.
2. **Team Collaboration and Deep Analysis:**
    - In several team meetings, we carefully analyzed the gap between our initial plan and the current available resources.
    - We assessed the remaining software work and discussed how to adapt it to the laboratory's alternative platform. We also recognized that certain functionalities would need to be scaled back due to hardware limitations.
3. **Developing and Implementing a Mitigation Strategy:**
    - We decided to port our existing software to the alternative platform provided by the lab.
    - To mitigate the reduced functionality caused by the hardware differences, we opted to use algorithmic optimizations to compensate for potential precision loss.
    - We streamlined our project scope by eliminating non-essential features, thereby reducing our workload and ensuring that we could meet the new deadline with the resources at hand.
4. **Execution Under Pressure:**
    - With a revised plan in place, we reallocated tasks and adhered strictly to our new schedule.
    - Throughout the process, I maintained clear communication with our supervisor and the team, ensuring that everyone was updated on our progress and any further adjustments.

Result:
Despite the setbacks, we successfully completed the project within the revised timeline. The final product, although limited in some features, was capable of providing non-intrusive navigation. Notably, we improved the device's positioning accuracy under low signal conditions by tenfold, and our solution also reduced the overall size of the device, enhancing its wearability.

7「协调跨团队/跨部门目标不一致，最终达成共识并取得阶段性成果」

- **核心看点**：多方目标冲突 -> 沟通/谈判 -> 达成一致 -> 后续成果/教训。
- **可覆盖的领导力题目**：
- **Earn Trust**（和不同团队合作、对齐、互相信任的过程）
- **Have Backbone**（如果中间经历过分歧，你坚守了什么，或怎样"Disagree and Commit"）
- **Deliver Results**（最后如何保证项目如期完成）

- **Customer Obsession**（如果此过程与客户需求或体验有直接关联）

Situation:
During the development of our **Online Snake Game & Leaderboard**, our six-member team encountered a significant conflict regarding the scoring mechanism. The data team was pushing for a **complex scoring system** to make the game more engaging and to capture richer data for analysis, while I advocated for a **simple scoring system** to ensure a quick launch and validate the game's feasibility. This disagreement was creating tension and delaying our progress.

Task:
As the team lead, my responsibility was to mediate the conflict and steer the team toward a consensus that balanced technical feasibility with enhanced user engagement. I needed to ensure that we delivered a working Minimum Viable Product (MVP) on time without compromising on quality or customer expectations.

Action:

1. **Clarified the Project Timeline:**
    - I reviewed our Gantt chart and overall timeline with the project manager, confirming that implementing a complex scoring system would risk missing our deadline.
2. **Facilitated Open Discussion:**
    - I organized a team meeting to allow everyone to share their opinions and concerns. I actively listened to both sides, recognizing the importance of a timely launch while also understanding the data team's desire to enhance gameplay.
3. **Proposed a Balanced Solution:**
    - I proposed that we implement the **simple scoring system** for the initial release to meet our deadline. To address the concerns about future enhancements, I suggested designing the code with extensibility in mind. By leveraging object-oriented design principles and the Observer pattern, we built a flexible architecture capable of supporting advanced scoring features—such as difficulty-based bonuses and combo multipliers—in future updates.
4. **Validated with User Feedback:**
    - To ensure our approach was aligned with user preferences, we conducted a brief user survey. This data-driven step helped confirm that the simple system was sufficient for launch and that advanced features could be prioritized for later improvements.

Result:

- **Timely Launch:** We successfully implemented the simple scoring system and launched the game on schedule, leaving room for future enhancements.
- **Positive Feedback:** Our client and early users praised the smooth gameplay and robust leaderboard functionality, with the leaderboard quickly becoming one of the game's most popular features.
- **Foundation for Future Updates:** The flexible architecture we built allowed us to seamlessly integrate advanced scoring features in subsequent versions without significant redevelopment.
- **Improved Team Collaboration:** The process strengthened trust and cohesion within the team, as members saw that their concerns were heard and balanced against the project’s core objectives.

8 - 麻烦顾客，Critical 反馈

Situation:
During my final year project (FYP) at university, my lab requested that I use a machine learning approach to analyze microscope images so that they could avoid manual classification. The goal was to develop a process flow that automates image analysis, which was clearly defined in our project contract.

Task:
My task was to design, build, and train an ML model that could successfully analyze the images. However, during the presentation, one of the clients expressed dissatisfaction, saying that what I demonstrated did not look like the “tool” he expected.

Action:

1. Immediate Clarification:
    - In the meeting, I explained that due to time constraints, the demonstration focused on showcasing the ML process and model performance rather than a full-fledged GUI application.
2. Private Follow-Up:
    - After the presentation, I arranged a private conversation with the client to better understand his expectations and explain that the project was originally scoped to deliver an ML flow integrated into their existing software, not a standalone application.
3. Offering a Future Solution:
    - I further expressed my willingness to initiate a new project to develop a complete, user-friendly software tool if that was necessary, ensuring that the client’s needs could be met in the future.

Result:
The client apologized for the misunderstanding and acknowledged the potential of my project. As a result, we began discussions for a new project aimed at developing the complete tool he had in mind. This experience reinforced the importance of clear communication and aligning project expectations from the start.