Case Studies : Introduction

Case 1 : Stakeholders Analysis

Context:

Case inspired from: Welcoming an end to paper-based healthcare - Technology Record

As a software engineer in the medical sector, your goal is to reduce wait times and improve patient experiences. Previously, hospitals used paper-based records, which were costly and caused delays in delivering documents to clinicians. To address these issues, digital solutions were implemented to give staff immediate access to case notes.
You developed an electronic document and records management software to replace paper. This software allows healthcare professionals to access patient records quickly. Thanks to metadata and indexing, the digital archive now supports quick and advanced searches. The system integrates with other IT services of the hospital and supports simultaneous access by multiple users. A component with Optical character recognition (OCR) is designed to facilitate the conversion of previous paper documents into digital versions.

Exercice:

The goal of this exercise is to make you use the strategy “Stakeholder analysis” seen in the video.

1. Brainstorm a first list of stakeholders
2. Use the questions in order to find other stakeholders of your software. Go through all the questions and try to find at least 6 stakeholders
3. Use the Direct vs Indirect chart to find at least 2 other stakeholders
4. For each stakeholder, establish whether your software puts it at risk and briefly describe the potential impact.

Case 2 : Ethical Speculation

1. Read the scenario. You can deepen your understanding by reading the associated article.
2. **Part I:** the dark and pessimistic story of your Escape the Mirror scenario
    a. Brainstorm and invent a character that would be negatively impacted by the software. What would happen to them?
    b. Write a pitch that summarizes the story and find an attractive title.
    c. Fill out the template below with the details of your story
3. **Part II:** the happy ending of your Escape the Mirror scenario
    a. Identify the ethical issues in your scenario (1 or 2 is sufficient)
    b. What would be the immediate and long term consequences?
    c. Brainstorm a happy ending story for your character: how could the harms be avoided? What kinds of solutions could help address the harms?
    d. Fill out the template below with your answers

Scenarios:

Scenario A: personalized medicine
Source article: The Crucial Role Of Predictive Analytics In Precision Medicine (Forbes)

One technological advancement that holds tremendous promise for the future of healthcare is predictive analytics. By analyzing large amounts of data from various sources, predictive analytics can identify patterns and trends that can inform the development of targeted interventions and programs and help healthcare providers make more informed decisions about patient care. Additionally, the technology can help physicians develop personalized treatment plans for individual patients, which can help to improve outcomes and reduce healthcare costs.

For example, by analyzing an individual's genetic data, healthcare providers can identify which medications are most likely to be effective for that patient and which may cause side effects. By analyzing an individual's lifestyle and environmental data, physicians can identify risk factors and make recommendations for lifestyle changes that can help to prevent the development of certain conditions or diseases.

Predictive analytics can revolutionize healthcare but faces many challenges. A holistic approach is needed, involving data preparation, model selection, privacy, security, and fairness. Healthcare data's complexity requires ongoing monitoring and adaptation. Despite challenges, predictive analytics offers great promise for improving healthcare with meaningful insights.

Scenario B: dating apps
Source article: The Tinder algorithm, explained - Vox

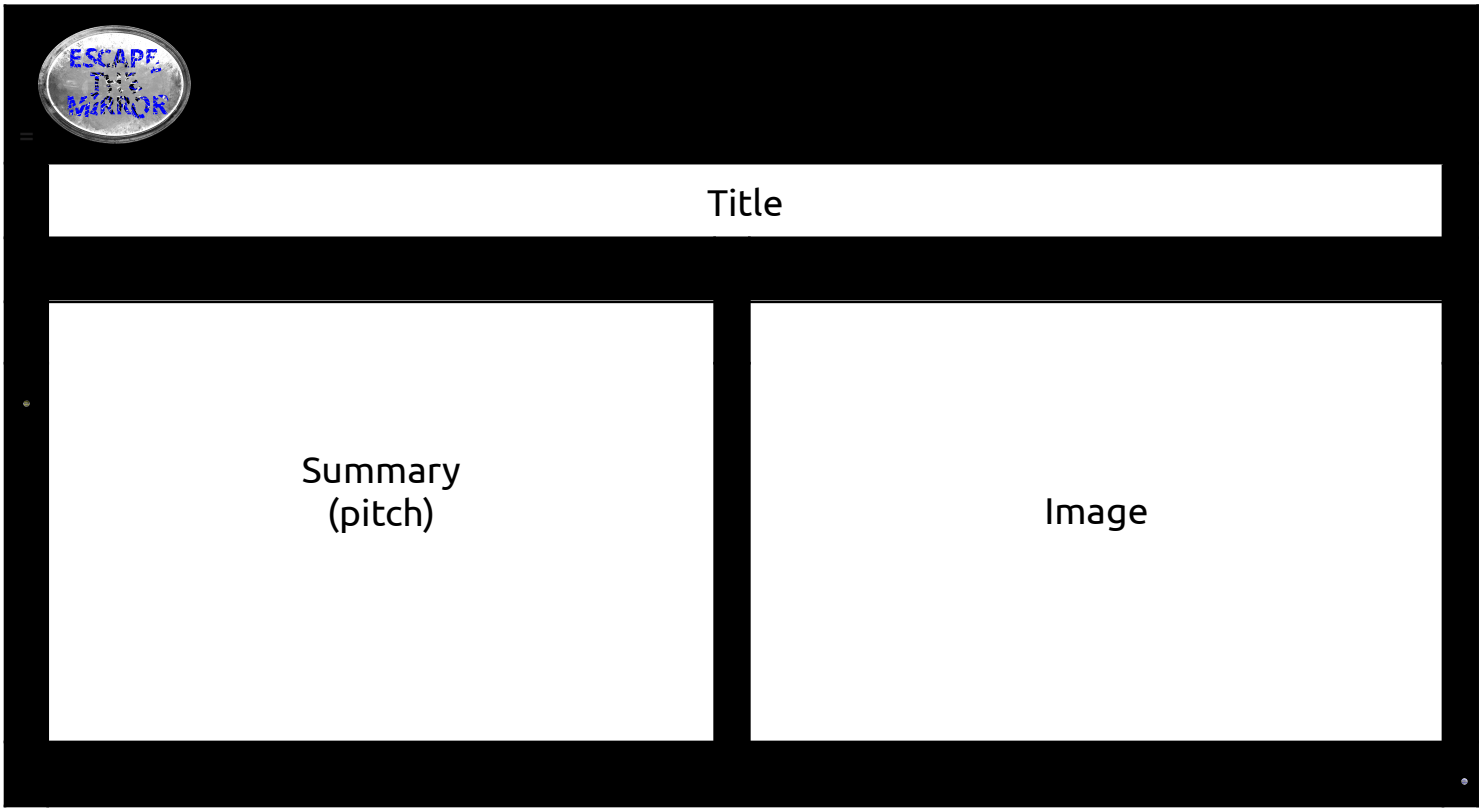
In the past, Tinder employed a hidden rating system, akin to Elo ratings, which gauged desirability based on how many users liked your profile. The weight of a swipe depended on the swiper's own desirability, creating a hierarchy. In 2019, Tinder introduced an upgraded algorithm, shrouded in secrecy but seemingly based on user behavior patterns and preferences, minimizing the competitive aspect.

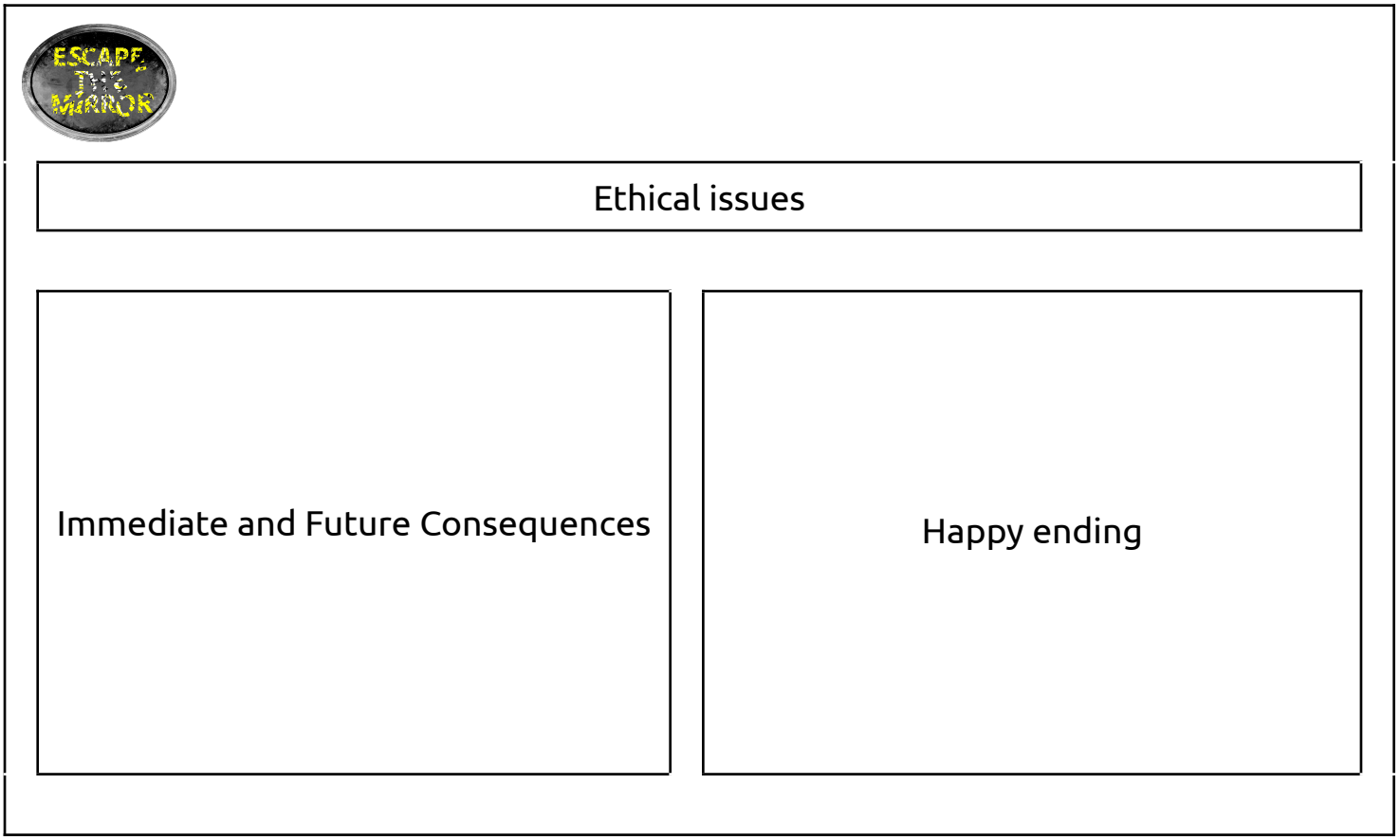
Other dating apps, like Hinge and The League, utilize distinct algorithms. Hinge claims to employ machine learning to predict compatibility, while The League prioritizes profiles matching popular preferences, even considering LinkedIn connections.

A 2012 study from Northwestern University argued that algorithms struggle to forecast relationship success before people interact, emphasizing the importance of real-world chemistry. Helen Fisher, a researcher at Match.com, echoed this sentiment, asserting that cognitive overload hinders our ability to choose from a multitude of options. She suggested limiting choices to nine matches, our brain's optimal capacity.

In essence, dating apps employ diverse algorithms to facilitate connections, but their effectiveness remains uncertain. Genuine compatibility often emerges through actual interactions, and cognitive limitations play a substantial role in the online dating landscape.

Templates:


ESCAPE THE MIRROR
Title
Summary (pitch)
Image


ESCAPE THE MIRROR
Ethical issues
Immediate and Future Consequences
Happy ending