

Case Studies: Sustainability 1

Case 1: Decision matrix - Choosing an interactive voting tool

Context

A professor at EPFL is seeking to enhance interaction with students during auditorium sessions by using a new voting system. They decide to ask their TA team to help them choose wisely the system they will be using. You are working on this project and are given by the professor the three options they have already shortlisted: Mentimeter, Kahoot! 360 and SpeakUp. Each system offers unique features and benefits, and the ultimate decision will mostly take ethical considerations into account. The selected system must protect user privacy, be accessible and inclusive for all students, ensure user safety, have high sustainability standards and implement an adequate transparency level.

Exercise:

In order to select the proper platform, you and your team decide to apply the Decision Matrix strategy in two steps:

- I. **Determine at least 5 criterias** to evaluate the different options you are given and assign a weight to each of them by distributing 10 points between the different criterias. The professor will need to understand the rationale for your choices.
- II. **Complete the matrix** by rating each system from 1 to 3 for the different criteria to determine which voting system the professor should select.
In preparation for this step, you have already reviewed the terms and conditions and the privacy policies of the three systems and summarized the key points in the following tables. In addition, you can perform additional searches online as you see fit. You can use [this source](#) to evaluate the carbon intensity of the locations for hosting your software.

Summaries for the three voting apps [last updated in October 2025]:

NOTE: these summaries are provided for educational purposes only, the official terms of use and privacy and security policies provided by the vendors are the only valid reference.

1. Mentimeter: <https://www.mentimeter.com/>

Company location	Headquarters in Stockholm, Sweden
Product hosting	<ul style="list-style-type: none"> ● Main data hosting: Amazon Web Services, Luxembourg ● Image caching and rendering: Cloudflare, USA ● Artificial Intelligence features (opt-in): OpenAI, Ireland
Legal compliance	GDPR (EU)
Data collected	<ul style="list-style-type: none"> ● Account with personal data provided by user (contact info) ● User-generated content, which is made publicly available except for the 'pro' and 'enterprise' paying plans which have a choice of sharing policies ● Usage traces (detailed) ● Information collected on third party websites and platforms as well as public information for combination
Accessibility	Mid-range (level AA on WCAG)
Protection from online risks	<ul style="list-style-type: none"> ● Age limit: 13 (under 16 with parental consent) ● Tool available for users to filter unwanted text from the audience for the 'pro' and 'enterprise' paying plans.

Open Source?	No
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2. Kahoot! 360: <https://kahoot.com/schools/higher-ed/>

Company location	Headquarters in Oslo, Norway
Product hosting	<ul style="list-style-type: none"> • Main data hosting: depends on user location For EU-located users (this list is not exhaustive): <ul style="list-style-type: none"> ○ Google Cloud EMEA, Ireland ○ Amazon Web Services, Luxembourg ○ OVH, Canada ○ Hetzner, Germany • Artificial Intelligence features (opt-in): Microsoft Azure, Ireland
Legal compliance	GDPR (EU & UK) FERPA, COPPA and SODIPA (USA)
Data collected	<ul style="list-style-type: none"> • Account with personal data provided by user (contact info, detailed profile) • User-generated content, with choice of sharing policy • Usage traces (detailed) • Information collected on third party websites and platforms in the context of recruitment
Accessibility	Mid-range (level AA on WCAG)
Protection from online risks	<ul style="list-style-type: none"> • Age limit: no • Moderation team reviewing content. • Possibility for users to flag inappropriate content for review by the moderation team.
Open Source?	No

3. SpeakUp: <https://www.speakup.info/>

Company location	University of Neuchâtel, Switzerland
Product hosting	<ul style="list-style-type: none"> • Main data hosting: Neuchatel, Switzerland
Legal compliance	GDPR (EU) CPDT-JUNE, LPD, OLPD and LTC (Switzerland) Age limit: no
Data collected	<ul style="list-style-type: none"> • No account/login, optional user ID for admin, optional nicknames for guests • User-generated content • Usage traces
Accessibility	N/A
Protection from online risks	<ul style="list-style-type: none"> • Age limit: no • Tool available for users to filter unwanted text from the audience
Open source?	Yes

Here is a template for the Decision Matrix:

Criterion	Weight of criterion	Mentimeter	Kahoot! 360	SpeakUp
Total				

Case 2: Stakeholders analysis - A new datacenter

Context

SuperDatacenterCorporation, a fast-growing company, decided to create a new datacenter in Iceland. Attracted by the country's cool, stable climate, ideal for the natural cooling of machines, it chose to build a vast, ultramodern data center near Reykjavik. This new facility promises optimized performance and a low carbon footprint thanks to its state-of-the-art infrastructure. The management team also sees this project as an opportunity to enhance the security and reliability of its services.

Exercise

- Identify at least 8 **stakeholders** and describe briefly why they are stakeholders in this scenario.
- From the 8 stakeholders of the previous question, identify at least 3 who are **negatively affected** by the project, and describe how they are impacted.
- Fill out the direct/indirect table below and provide a **justification** for your **direct/indirect** classification.
- Describe how a **rebound effect** can occur in this context.

Stakeholders	Direct	Indirect	Justification

Case 3: Edge Cases - Health Monitoring App

Context

You are a software engineer working on a Health Monitoring App designed to help users track their physical activity, diet, and overall well-being. The app integrates with wearable devices to provide real-time data on metrics such as heart rate, steps taken, calories burned, and sleep quality. The goal is to promote healthier lifestyles while also considering the app's sustainability.

Exercise

Apply the edge case analysis to anticipate challenges across global reach, mass adoption, and longevity, to be sure that your design of this app will have sustainability as a central focus. For each edge case, propose a design change that would mitigate the issue.

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