MR. Eco

An app to track your carbon footprint

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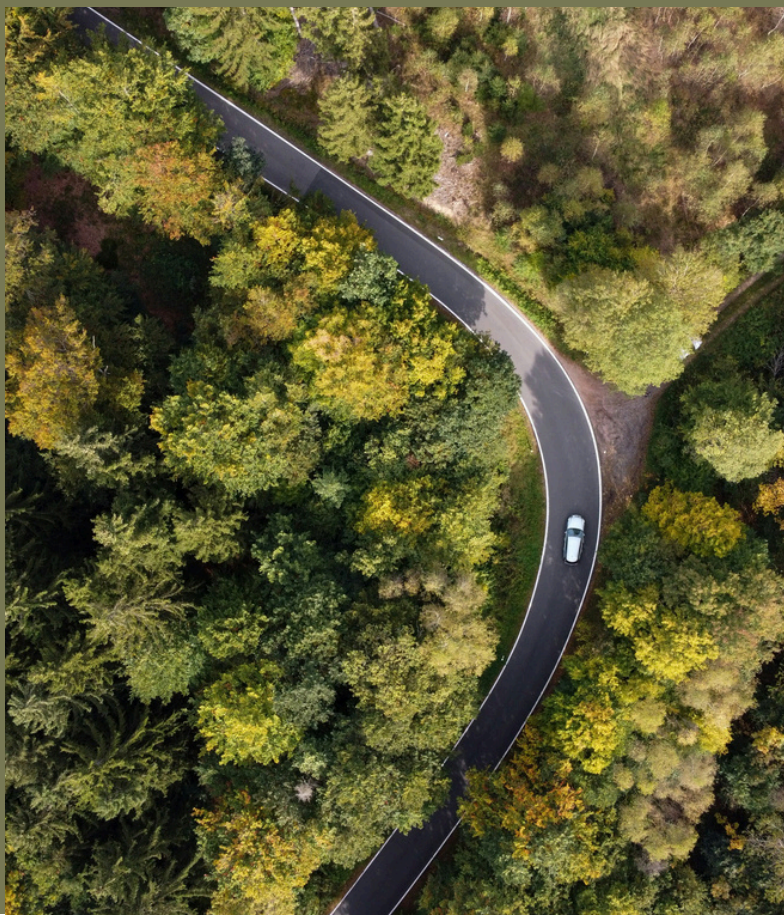

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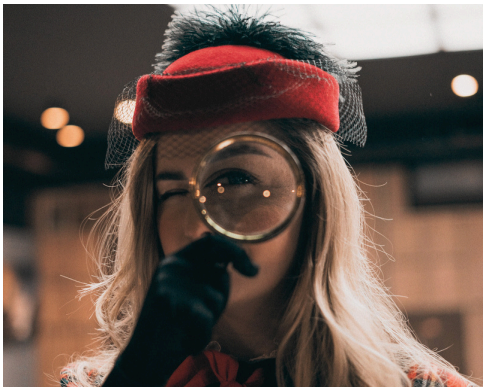
01 Introduction

Every day, millions of people travel from one place to another, whether by car, bus, train, or plane. Most of us hardly think about how much CO_2 this generates. Climate change seems big, far away, and sometimes simply overwhelming. But the truth is, it starts with the small decisions we make every day. We are five students who have decided to speak up. For a course project and we wanted to develop something meaningful. Something that helps people recognize their impact on the environment in a simple, understandable, and even playful way, and that's how our idea came about.

We are two students who have decided to speak up. For a course project and we wanted to develop something meaningful. Something that helps people recognize their impact on the environment in a simple, understandable, and even playful way, and that's how our idea came about.

Why a detective?

Because climate awareness shouldn't feel like homework. We believe that learning can be exciting and that protecting the planet can feel like an adventure.



MR. Eco makes something serious accessible and easy to understand. When users see their results, they don't just get data, they discover clues that help them make better decisions. Our app includes a home page, a methodology section that explains the calculations in an understandable way, and a CO_2 calculator where the detective presents the results. Transparency was important to us. We don't hide data or formulas. We show exactly how everything is calculated. Because if you understand how emissions are generated, you can change them.

With MR. Eco, we want to inform and motivate people. We want to show that small steps make a difference. And above all, we want to prove that climate protection doesn't have to be depressing or complicated. Sometimes it can even be fun.

02
Business Model

When we started developing MR. Eco, we quickly realized that a creative idea alone was not enough. An app only makes a difference when people actually use it, for example outside the classroom, in everyday life, at school, or perhaps even at work. So we needed a business model that showed how Mr. Eco could function in the “real world.”

Key Partners	Key Activities	Value Proposition	Customer Relationships	Customer Segments
• Skyss • University HVL	• Regular updates of the methodology • Community engagement through social media • Coordination with partners • Creation of the website	• Increase environmental awareness • Calculation of personal CO2 Footprint	• Community building through social media • Feedback integration • Rewards (non monetary) • Progression system (levels or badges) • Competition & challenges	Main target group: • Everybody, who wants to live in a more sustainable way • Schools, Company
	Key Resources GitHub Amazon Web Service Visual Studio		**Channels** • Mobile app stores (AppStore & Play Store) • Sustainability events • Website • Social Media	

Cost Structure	Revenue Streams
• Developement costs • Server-costs (AWS) • Salaries • Variable costs: marketing an promotion	• Free for customers, generating revenue through adds • Future partnership with Skyss & transportation companies

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Business Model

Who do we want to reach?
Our app is aimed at people who want to live more sustainably but often don't know where to start. Many feel guilty about the climate but don't have concrete figures or guidance. That's exactly why MR. Eco should be simple, friendly, and trustworthy.
Schools and companies are also part of our target group. Climate education has become increasingly important in recent years, and many companies are interested in corporate sustainability. With challenges, workshops, or class projects, MR. Eco can not only inform but also motivate.

What value does the app offer?
The greatest added value lies in understanding. The app does not make the carbon footprint an abstract problem. Instead, it shows you your route, your kilometers, and your results. This makes climate protection something personal, something you can influence.
With MR. Eco, we want to motivate people. Badges and small challenges show that sustainable behavior doesn't have to be boring or frustrating. Small steps can become habits, and habits lead to long-term change.

How does MR. Eco reach users?
Our app will be available in app stores and will also be supported by a website and social media channels. If we want to get people excited about sustainability, we have to go where they already are. Sustainability events and school campaigns can also help raise awareness of the app.

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Business Model

MR. Eco's Relationships with users

We want to build a small community around MR. Eco: users who compare results, motivate each other, start challenges, and give feedback. Not because they have to, but because they enjoy doing something meaningful. When climate protection becomes a communal effort, it becomes stronger.

Which key partners do we have?

For an app like MR. Eco, it's important not to work alone. That's why it was important for us to have partners who support and promote our ideas. HVL initiated and supported the project, while the Norwegian transport company Skyss could play a long-term role in data and cooperation. Our partners bring credibility, up-to-date information, and facilitate access to specific user groups.

What are our key activities?

To ensure that our app continues to run smoothly in the future, it needs to be maintained and further developed. Therefore, our most important tasks are to regularly update the methodology and communicate with users. It also requires coordination with partners and website maintenance.

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Business Model

What resources does MR. Eco need?
We used various digital tools to bring MR. Eco to life. Visual Studio and GitHub were used for joint development. Amazon Web Service serves as the server and ensures that the app runs smoothly and remains accessible.

What are Mr. Eco's costs and financing options?
Mr. Eco should remain free of charge so that everyone can participate. Revenue could be generated through small in-app advertisements or partnerships with, for example, transport companies, schools, or environmental initiatives. Such collaborations could help keep the app running while spreading climate awareness.

In other words, our business model is not just about profit but about keeping a good and sustainable idea alive. As long as the app remains accessible, transparent, and community-oriented, it can grow beyond this project and reach even more people. MR. Eco is designed to help users see their everyday journeys in a new light and understand that even small decisions can make a difference. And if a small app helps to change the way people think about mobility, then its development will have been more than worthwhile.

03 Methodology

To calculate CO_2 emissions in our app, we use a method that is scientifically sound and easy to understand. Our goal was to develop a model that is transparent, fair, and educational. The app is not only designed to calculate emissions, but also to teach users about them.
To do this, we rely on the emission values from Klimatsmart Semester, described by Larsson & Månsson (2024). These values show how many grams of CO_2 are produced per passenger kilometer (pkm). Instead of asking how many emissions a vehicle causes in total, we calculate how much CO_2 is produced when a person travels one kilometer. This allows different modes of transport to be compared fairly and transparently.

All results in the app follow one simple formula:

$CO_2 = d \times fe / p$	• **d** = the distance travelled • **fe** = the emission factor (grams of CO_2 per kilometer • **p** = number of passengers

This formula illustrates a central idea behind Mr. Eco:
When a car travels 20 km, the total emissions remain the same regardless of how many people are traveling in it. But per person, the emissions are lower when the car is shared with others. The app shows that even everyday decisions can make a difference.

03 Methodology

Since our app was developed in a Norwegian context, the emission values are adapted to Nordic conditions. For example, the values for electric transportation are based on the Nordic electricity mix, which has lower CO_2 emissions compared to many other regions. In addition, typical Norwegian modes of transportation such as ferries and electric cars have been integrated to provide a realistic picture of local traffic.
At the same time, the calculation should be easy for users. That's why only car drivers have to enter the number of passengers manually, while the app automatically uses average values for all other modes of transport. This keeps the results realistic without complicating the operation.

Our transport modes::

Transport mode	Specification	Emission factor
Plane	Economy class Business class	127 g CO_2/pkm 289 g CO_2/pkm
Car (medium-class)	Diesel Petrol Electric	228 g CO_2/pkm 198 g CO_2/pkm 59 g CO_2/pkm
Train	Diesel Electric	91 g CO_2/pkm 7 g CO_2/pkm
Bus	Diesel	30 g CO_2/pkm
Ferry	With passenger Car without passenger	186 g CO_2/pkm 377 g CO_2/pkm
Walk / Bike	-	0 g CO_2/pkm

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Methodology

The methodology shows how your personal footprint changes depending on distance, fuel type, and number of passengers.
Cars show the biggest difference between solo travel and shared use, while buses and trains are efficient because many people travel at the same time. Airplanes and cars with only one person cause the highest emissions. Walking and cycling, on the other hand, produce none at all.

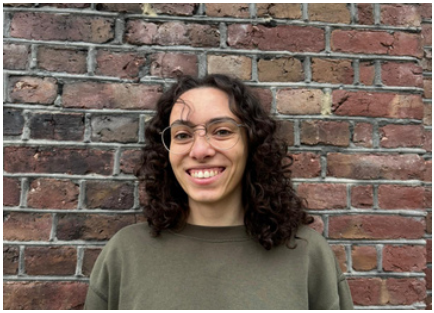
By showing how emissions are calculated and what data they are based on, the app creates transparency and trust. This makes Mr. Eco's methodology a learning tool. The results are not just numbers, but something that users can understand and influence and often, understanding is the first step toward change.

At the end of the day, MR. Eco is more than just a calculator. The app reminds us that our daily decisions matter and that learning about the climate doesn't have to be complicated. We hope that people will become a little more conscious of their everyday habits and perhaps take the first small step toward change.

Our Team

Shaira Krüglstein

My name is Shaira, I'm from Germany and I study Human Resources Management. I enjoy working with people and learning what motivates them, and that is also why sustainability interests me. I believe that even small actions can make a difference, and I like being part of projects that create awareness and positive change.



Julie Joan

Hi, I'm Julie, and I'm currently pursuing aa Masters's degree in Digital Education for Sustainable Development at Heidelberg University of Education. In my studies, I explore the intersections of education, digitalization, and sustainability. I'm particularly interested in how digital media and innovative approaches can be used to foster a more sustainable future.

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