



DigiEduHack Solution

ECF Hackathon - Building the cycling city of the future

Challenge: ECF Hackathon - Building the cycling city of the future Challenge 2020

Cycle for everybody: A collaborative smart cycling enhancer

GoCycling will be the cycling assistant that reward your cycling

The security, lack of information, and even self-motivation are some of the reasons why people don't cycle. GoCycling will assist you with information regarding cycling routes and services and reward you for cycling. Let's cycle and make friends with GoCycling

Team: CycleBuddies

Team members

Ashraful Islam, Aziz Rahman, Rafael Muñoz, Yousuf Dinar,

Contact details

a.marie@ecf.com

Solution Details

Solution description

The cycle for everybody is a scheme to encourage employees and students to go cycling in their daily life. Under the scheme, an employer (university/college if student) can pay for a new bicycle and the repays can be paid in regular instalments from their salary/with semester fees. In addition to the scheme, a smart app named "GoCycling" is to be introduced. GoCycling is a multi-task platform, offering a better cycling experience. For example, users can share their planned itinerary and ride together, which enables the users to meet new people, more safety in the remote areas, and even seek help in case of emergency. GoCycling also locates the nearest repair shop and charging station from the user's location. Moreover, one of the primary objectives of the smart app is to recognize

and reward the people who are contributing through their actions building a sustainable environment. Therefore, it tracks the cycle-km travelled, which will be calculated further for tax-return incentives at the end of the year. Additionally, with each cycle-km travelled, an additional point will be calculated, which will be used for short-term-reward at many recreational and retail stores. GoCycling also offers exciting animated and real-life safety tutorials to educate the riders since it is not possible to ensure a cycling city without educating the users. Altogether, the main objective of the solution is to ensure cycling for everybody and for every day, motivating the cyclists as well as the non-cyclist group of people into cycling. The goal is to observe a modal shift from other modes of transport to cycling to decrease congestion and transport-related emissions. The solution benefits in many ways, for example, improving mobility and reducing GHG emissions. Every year millions of revenue are lost due to congestion and environmental protection. Studies showed that alone in Munich, Germany, such modal shifts alone would save at least 39 thousand CO2 emissions.

Solution context

The solution is mainly focused to attract cyclists by giving incentives in form of tax reduction and other benefits. The idea is to give motivation to people so they can start cycling and make an environmentally friendly city. There are no organized databases for bicycle repair shops in our city. Most of the cases people have to repair their Cycle still for a few major cases we need to go to a repair shop. If we don't find a repair shop nearby then it's very difficult to repair. Using this application, anyone can find the nearest repair shops. In recent years, the number of e-bike is increasing. Within the next few years, we might need charging stations for electric bikes. With our integrated application, people can easily find the nearest charging station.

We also tried to integrate our application with tutorial and education stuff like Tutorials and learn, Repairing guides, Ride safely tutorials. There are a lot of YouTube videos for learning and other websites related to safety training but organized everything under one application. Sometimes it is really boring to ride a bicycle alone. If you find a rider who can ride with you for a long trip or same destination, that will make the journey more fun. In our application we tried to connect the rider in this platform and people can share their next journey and find someone who can have the same destination.

Solution target group

First, our general target groups are all kinds of people who ride bicycles and who do not ride bicycles. Employees, students, tourists and commuters are the main target groups. Tax reductions are mainly focused to attract non cyclist employees or general people. Students can take the other incentives benefits. The safety ride tutorial, and educational stuff are for everyone especially new cyclists and children. The repair shop, charging station are useful for all kinds of people who ride cycles. Journey buddies will be an interesting platform for those riders who like to travel long trips.

Solution impact

"Cycle for everybody" scheme will have impacts in the reduction of emissions, promote socialization, and power up local stores. GoCycling will collect anonymized data that can be used to measure the impact and benefits continuously. The impact can be measured in terms of the new km traveled, and therefore, the saved emissions. The most important expected impacts are:

- Reduction of motorized trips (car or public transport) that will shift to cycling and therefore emissions.
- An accurate measure of the promoted cycling trips, their distances, and estimate saved CO2.
- A strong community open to meet people and contribute with other cyclists.
- Power up local stores, using the discounts in the app as a promotional tool.
- New bicycle users due to the new facilities to purchase a bicycle.

Our strategies to measure the impact of our scheme are:

- New trips and the traveled km can be summarized for the user, and in general, using the collected data.
- CO2 reduction can be derived from the traveled km and user statements about which mode did the person use before.
- Measure the number of new interactions (joined trips/other cyclists collaborations) as a community score.
- With the use of QR codes, stores can now, from their total sales, how many were linked with GoCycling users.
- Amount of bicycles financed using the financing scheme.

Solution tweet text

“Cycle for every day” scheme integrated with the smart app “GoCycling” ensures that people can afford, ride, and enjoy a better cycling experience and are recognized for their movement towards a sustainable environment. Therefore, let’s ride together with GoCycling. #CycleForEvery

Solution innovativeness

There have been many works or solutions to promote cycling for daily life around the world. For example, Ireland has launched a similar scheme, “Cycle to Work,” where an employer lends up to 1500 Euro to their employees to buy a cycle. However, our “Cycle for Everybody” scheme not only focuses on those who have a job but also focuses on the students as well. Europe has been one of the exciting destinations for higher study, and taking the students as well under the scheme would make sure affordability for all. In addition, what makes the solution different from the currently available solution is the several exciting and unique features of the GoCycling app. Users can ride bicycles for their daily life, and for their contribution to society, they are recognized and well-rewarded in the form of tax deduction in addition to several retail-based incentives. Several retail-based incentives are available currently where the users had to buy from lists of stores even without having the flexibility. Tax deduction offers the users to spend their money as they wish. Another unique feature of the app is to find ride buddies where the users can meet their ride budding, which not only allows them to meet new people but also serves better safety. In addition, the app also offers locating the nearest charging point and repair shops for a better experience. Moreover, a group of safety and short cycling repair videos are also available in the app so as to educate the riders on the safety aspects as well as basic cycling skills. To sum up, the solution is unique and provides solutions to many cycling-related problems to make the whole experience more attractive.

Solution transferability

“Cycle for every day” scheme can be partially transferred to any other part of the world, and the viability of each component should be assessed in an independent way at each context, each element and their implications are:

- Map services: With an open-source map service, the map info can be transferred to other cities' previous data checking about cycling infrastructure.
- In cooperation with the community, the tutorials can be translated into other languages.
- New study areas will require new commercial agreements with local stores.
- The tax-refund scheme could not be compatible with all the study areas, it will be applied according to each context.
- Bicycle financing will also require specific conditions and agreements with universities and companies and could not be easy to transfer.

Solution sustainability

The objective is to make cycling attractive and observe a significant amount of modal shifts. However, this innovative idea can be implemented in short, mid, and long terms. Short-term plan would be executing all the features and can be achieved by the next six-twelve months. This horizon will concentrate on investment and business development, including the incentive aspect before starting with the implementation. Public engagement programs could also be as exciting as the short term goal.

The mid-term goal would include reaching out to the people and make the app and the scheme well recognized. In addition, other sustainable mobility services can also be integrated, creating intermodal and multimodal solutions for everyday life. Also, more attractive incentives could also be adopted during the mid-term implementation. The time-horizon for this phase is up to 24 months. The data collection and several surveys would also be executed in this phase as a pre-study for the long-term phase.

The long-term business model will focus on further development and adding other features, such as smart navigation systems, anti-theft systems, C2X system, etc. Furthermore, a smart bike-sharing opportunity would be introduced where people can share their bike and gain points—the long term business plan to be achieved by 60 months.

Solution team work

Even though online teamwork has been a big challenge for all of us, our group managed to get through all the difficulties to have a solution according to our expectations. We consider that having face to face discussions are more interactive, but we also recognize the value of online chat and video-calls in teamwork. As a team, we managed to create a good work environment where all of us managed to share our own ideas and experiences. In the future, we would like to have more opportunities to keep working together as a team and in person