Appendix 1: Case study about a Design thinking intervention – “BiciEspol”

Dear participant, below you will find a case regarding the use of bicycles within the campus “Gustavo Galindo” of ESPOL. Analyze the information presented as you will then be asked to answer some questions related to this case.

Important: This document is for reading only. Do not write in this document. Return it under the same conditions as it was delivered to you.

Case BiciEspol:
(Adapted from several sources, including the Department of Student Welfare (UBEP) of ESPOL and the project "How to improve the user experience of the BiciEspol? “ Its use is exclusively for research purposes and some information has been modified)

BICIESPOL, is an alternative transportation service that consists of bicycle rental for free to use inside the campus “Gustavo Galindo Velasco”. This service is for regular students, professors or workers of ESPOL. The administration of this bicycle service is in charge of the Department of Student Welfare (UBEP). BiciESPOL’s bikeway has two stations, one at the main entrance and one on the side of the rectorate building. The tour can take up to 7 minutes. The route has 2 km. There are 139 bicycles available for the exclusive use of members of the polytechnic community.

To borrow a bicycle, users must enter the UBEP website, download and fill out a form and deliver it (only the first time) to the UBEP office. The system automatically registers the user and if he/she wants to use a bicycle, he/she just should present the institutional card at the station. The document "Instructions for the use of Bicycles provided by ESPOL" is available in the UBEP web portal; in this instructive, the following is mentioned (among other information):

Each person has up to 15 minutes available to return the bicycle. If the user does not return the bicycle on time, a $0.50 fine will be applied for each fifteen extra minutes or fraction of time. Bicycles are unipersonal and are used only as a means of transport rather than for a leisure tour and must be only used on the proper bikeway area. The campus has irregular terrain so, it is mandatory to always use the helmet and it is recommended to cycle on gear (speed change) positioned in number 4 and for climbing slopes, in number 2. Additionally, when braking it is recommended to do it first with the rear wheel that is typically controlled from the right handlebar. For returning the bicycle it must be in the same condition in which it was received, this action can be done at the nearest station, after that, the lending will be released. At the station you will be notified if you have a fine for exceeding the fifteen (15) free minutes. If there are technical problems with the bicycle, the user must report what happened at the station. Bicycle rental starts at 07:00 until 18:00.

The bicycles were created exclusively for Espol, they have a Dutch design, brakes are hydraulic, they have seven gears to be used depending on the road sections while biking. In addition, the bicycle has a basket to place backpacks or other objects and a rear luggage carrier.

In March 2016 the first statistical report of the use of bicycles was released, yielding a total of 2292 lendings. In November of the same year, 74% of registered students (7101) used this service. Even so, there are certain improvements to be made and the authorities of the university want to improve the user experience of the BiciEspol service, especially for the students.

A team of students collected information about the BiciEspol service. So, they conducted several interviews, one of them to the person in charge of delivering and receiving the bicycles in one of the stations (from now on called lender) and to users.
The lender said that some problems do not always come from the bicycle itself but from the misuse by users (i.e. not using gears properly and/or speed control), this due to the ignorance and the little practice of the users. The lender also stated that some users, specially the new ones, are unaware of the correct use of the gears and therefore they prefer to keep them at low levels, so they do not get tired on the journey. He also indicated that he does not know how to differentiate between frequent and new users when they arrive at the station.

On the other hand, on an ordinary day the team gathered information in-situ about the process of renting and using bicycles on campus. There was a particular case that drew team’s attention, it was about a student (named as “Juan”) who were about to use BiciEspol service for the first time. Juan was curious about using BiciEspol service. He did not know the requirement to submit the form at UBEP and, therefore, when he arrived at the station he was not registered in the system, nevertheless the lender gave him a bicycle. The lender asked Juan if he knew how to ride that type of bicycle, Juan affirmed and got ready to take a bicycle. The lender explained the basic use of the bicycle, but he never mentioned the use of gears. The first problem Juan had was the helmet, it was not adjustable to the size of his head, and then he asked the lender for help. The second problem was the size of the bicycle; in spite of lowering the saddle, when Juan tried to ride the bike the weight of his backpack in the basket made him lose balance causing his fall. He tried other bicycles with the help of the lender until he found the right one and set out on his journey. Once Juan arrived at the final station, he was interviewed and admitted that he had not ridden a bicycle for a while and he had never used one with gears (therefore, he never used the gears which would have facilitated the tour), however he liked the journey which he considered nice to look at and safe. Juan said he would like to have safer equipment such as knee and elbow pads; as well as improving the communication about bicycle rental and its correct use.

From other interviews carried out with frequent users of BiciEspol, it was found that most of the interviewees use bicycles when they finish classes, that is to say, they take the route Rectorate – Main entrance to campus. Users enjoy the journey because of the landscape and they also like it because they find it more convenient compared to walking or waiting for the internal bus. However, some users stated that they were not given any advice on the use and handling of bicycles when they used the service for the first time, especially because the use of the gears; in those cases, users who had never driven this type of bicycle before used their intuition, others indicated that they learned how to use the gears, later on (watching YouTube tutorials, web pages or because someone else explained them) and a few recognized that they are still not sure if they are doing it correctly.

From all interviews and observations made by the team, it was evident that at the time of using the gears, most of the frequent users were familiar with them, therefore, they did not make more effort. On the other hand, the new users of the service let the bicycle gear in a single level due to ignorance or to get rid of difficulties in the journey. Those who had no experience with similar bicycles and/or had not received instructions about their use, preferred not to touch the gears shifters, or simply try them out indistinctly during the journey. Regarding the implements on the road, they feel safe with the cones and the pavement is also in good condition.

With this information, we ask you to analyze this case and answer some questions that you will find on a separate sheet.

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Research material
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