TEAM SPAIN

Miriam Monreal Garagalza

Asier Gamallo Valls

Iñigo Merino Vicente

Jose Luis Rivera Royo

Linda Pichardo
Máster en Dirección de proyecto
Coordinadora del equipo CHAINs

Sara Sánchez Falces

Ana Maria Figueroa Molano

Mónica Zapata Castillo

Challenge

How might we show effective environmental information for citizens in the packaging labeling?

Objectives

Main objective

Design and develop a service/product that allows to convey effectively to the consumer, through the labelling, environmental information about packaging, complying with the legislation.

Specific objectives

- Product/service intuitive and easy to use

- Incorporation of innovative characteristics or properties

- Give added value to the products using environmental information

- Adapt the product to market trends and consumer habits

Overview

What has been done?

How it was done?

Who is the target?

Results

Target or buyer person

What is **sought** with this dynamic?

It is based on **obtaining** the **maximum information** of who will be the **potential consumer**

Personality

Responsible
Honest
Curious
Dreamer
With ethical values

Fears

Climate change
Next generations
Global temperature rise
Loss of biodiversity

Interest/hobbies

Nature
Trekking
Concern for the environment
Flora and fauna

Cultural level

Medium level
Basic knowledge about recycling and sustainability

Desires

Making sustainable decisions without taking a lot of time
Contribute to the fight against climate change
Reduction of the environmental footprint
Society committed to the future of the planet
Social mobilizations

Strengths and weaknesses

By thinking about the strong points and the weak points, it is possible to **know the limitations** that appear **and** their **viability to be materialized**.

Strengths	Weaknesses
- Inform the consumer of relevant and reliable data about the packaging of their purchased product. - Simplification of information that on many occasions can be confusing for users.	- Few downloads of the application /visits to the web due to the fact that it is not attractive to the public. - Confusing app that makes it difficult for consumers to use.

WHAT IS

INFOPACK WASTE ?

It is an APP that allows the user to know the environmental impact of packaging.

By scanning the code on your purchase receipt you will know the environmental impact of **PACKAGING** of the products you have bought.
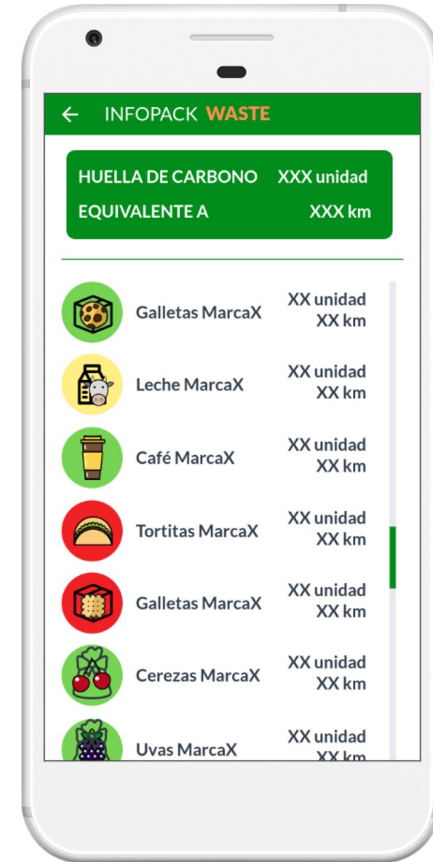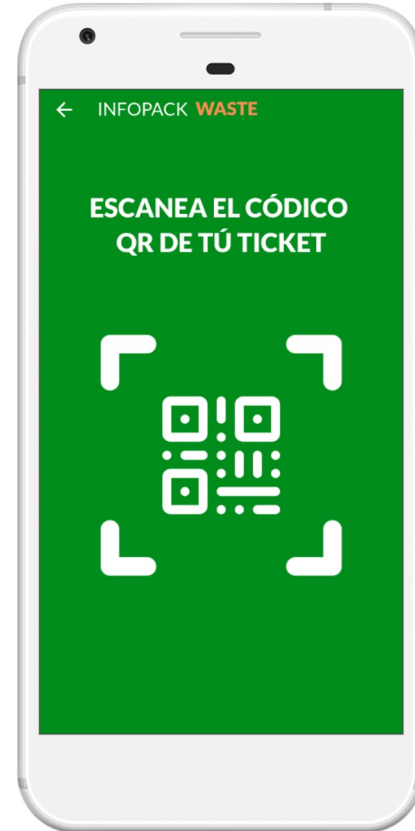
HOW YOU CAN USE IT?

The user can download the **APP** or use the service via a **website.**

They can also **create an account** or **log in as a guest**, in both cases, the user must scan the **QR** that is printed on the purchase **ticket** in the shop.

INFOPACK WASTE

USUARIO

CONTRASEÑA

ENTRAR

ACCESO COMO INVITADO

CREAR USUARIO

← INFOPACK WASTE

ESCANEA EL CÓDICO QR DE TÚ TICKET

INTRODUCTION

The first time the user downloads the application, he/she is shown these three screens with **a short explanation of the service offered by the APP.**

Help reduce the environmental impact of packaging on your shopping

Learn about environmental indicators that show the impact of different packaging and how to reduce them.

Start learning by scanning the QR code on your receipt and discovering all the information you have at your fingertips to reduce your environmental impact.

CREATE AN ACCOUNT OR LOG IN AS A GUEST

AS A USER

You can **choose your preferences** on the environmental indicators that are proposed.
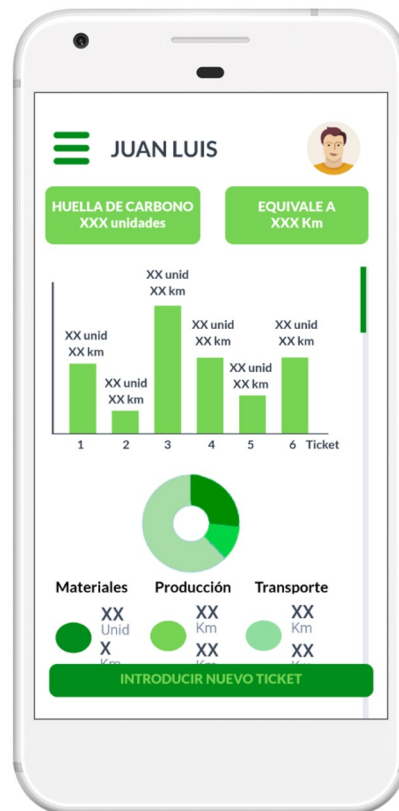
You will also be shown a screen with a **summary of all your purchases** and you will be able to **access previous tickets** without having to scan them again.

AS A GUEST

You **don't need to download the application** on your mobile phone as you can access it through a web page.

Your **purchases will not be saved**, you will only be able to see the ticket you scan at the moment.

INFOPACK WASTE

Personaliza con tus preferencias,
¿Sobre qué indicador te interesa saber más?

- ☑ Huella de carbono
- ☑ Emisión gases efecto invernadero
- ☐ Exposición a partículas finas
- ☑ Reciclaje de desechos
- ☐ Acidificación de los oceanos

GUARDAR

SALTAR INTRODUCCIÓN Y COMENZAR

JUAN LUIS

HUELLA DE CARBONO
XXX unidades

EQUIVALE A
XXX Km

Materiales   Producción   Transporte

INTRODUCIR NUEVO TICKET

YOUR TICKET

Once you have scanned the QR code on the ticket, you will be able to see all the products and their carbon footprint.

To make it more intuitive for the user, the products are **colour-coded and the carbon footprint is compared with Km travelled.**

If you click on each of the products you can see the **environmental indicators** that you have marked as preferential and which **container the packaging should be thrown in for its correct management.**

ENVIRONMENTAL INDICATORS

For more information on each **environmental indicator**, just click on it and you will find a **short description and more data on the impact** on that product.

The example:

Total Greenhouse Gas (GHG) emissions expressed as carbon dioxide (CO2) equivalent.
The concentration of GHGs in the upper atmosphere captures solar radiation reflected from the earth's surface and prevents its release into space, raising the temperature of the atmosphere in the layers closest to the earth's surface and, consequently, causing an increase in the average global temperature.
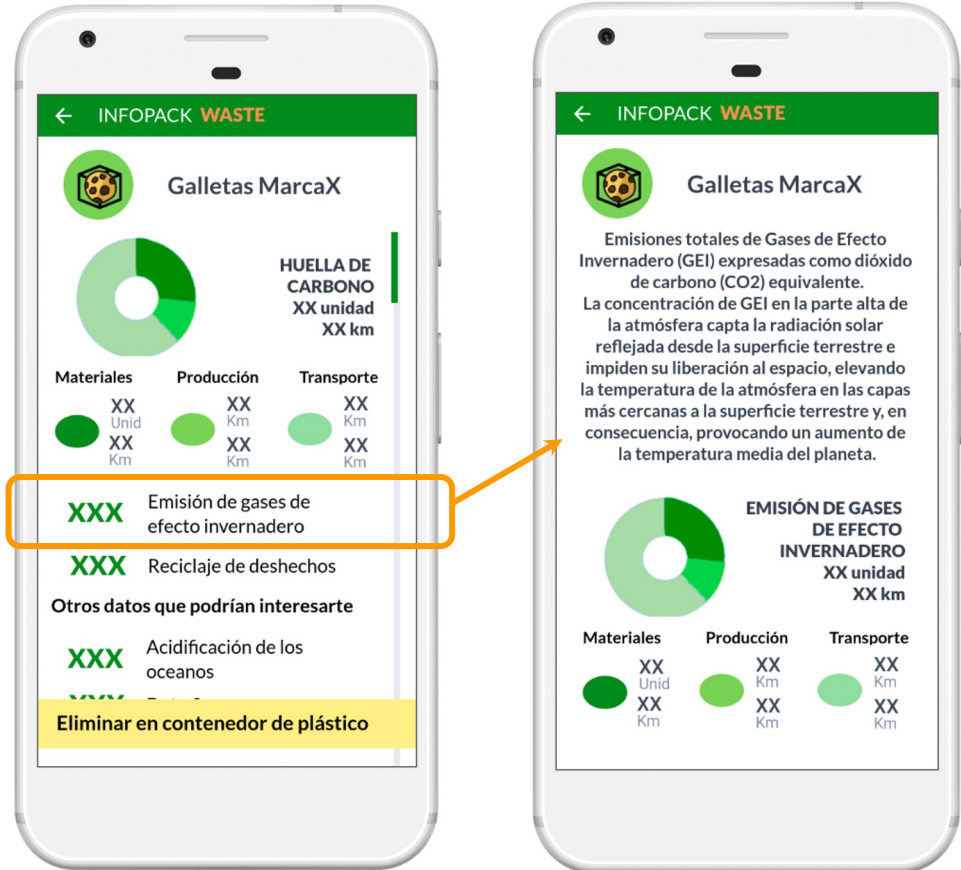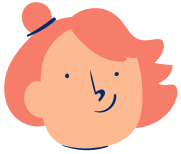
Validation test

What is it done for?

To find out if the developed prototype is **well understood among potential consumers** and to make the application more suitable.

'The **app is intuitive**, I like that it isn't necessary to create a user to obtain the information. The traffic light colors in the product list make it **easy to make a decision**'
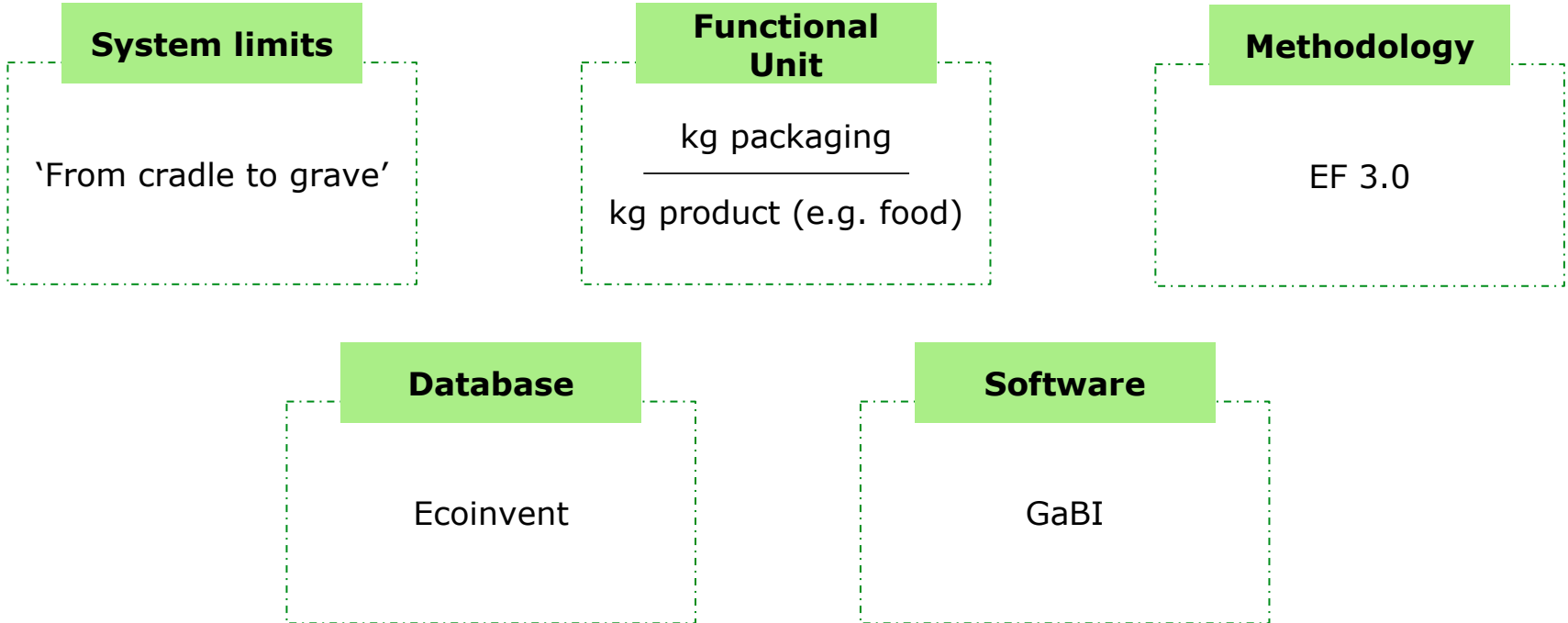
'It **generates great interest for me** to be able to see packaging from a different point of view than the one normally given to it. It is good that the **parameters are explained** so that everyone can understand them'

Life Cycle Assessment development

The general interest of the developed app will revolve around the **analysis of the packaging life cycle**. The results that the app will show will be based on the following criteria:

System limits

'From cradle to grave'

Functional Unit

$$\frac{\text{kg packaging}}{\text{kg product (e.g. food)}}$$

Methodology

EF 3.0

Database

Ecoinvent

Software

GaBI

Life Cycle Assessment development

Case of study I: Information about a single product

| Indicators	Units	PLA Bottle
Global Warming	kg CO_2 eq	38,14
Ozone layer depletion	kg CFC-11 eq	0,00004
Particulate matter	Disease incidence	2,495E-08
Ionizing radiation	kBq U235 eq	0,1571761
Photochemical ozone formation	kg NMVOC eq	0,17
Acidification	molc SO_2 eq	0,00004
Terrestrial eutrophication	molc N eq	5,88E-05
Fresh water eutrophication	kg P eq	258,36
Marine eutrophication	kg N eq	456003,83
Human toxicity, cancer effects	CTUh	354,24
Human toxicity, non-cancer effects	CTUh	449,23
Fresh water ecotoxicity	CTUe	31,294
Land use	Pt	2,202
Resource use, fossil	MJ	0,000
Water use	m^3 water eq	0,889
Resource use, minerals and metal	kg Sb eq	66,781

Life Cycle Assessment development

Case of study II: Comparison of two similar packagings
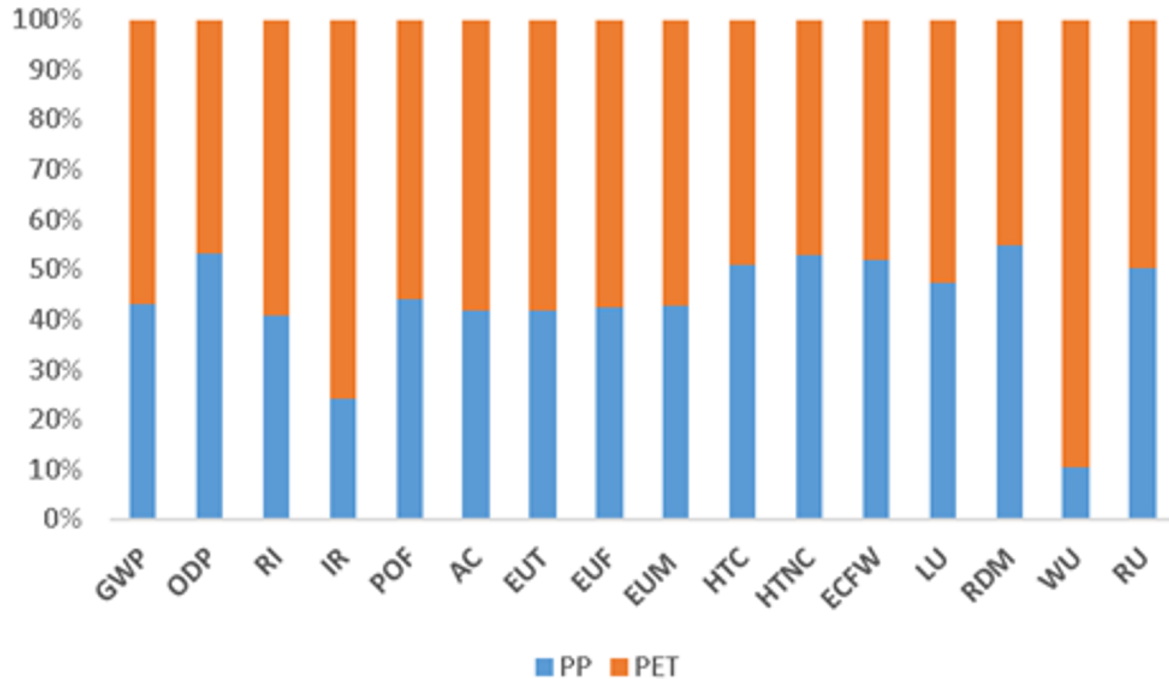
Life Cycle Assessment development

Case of study III: Comparison of two different packagings
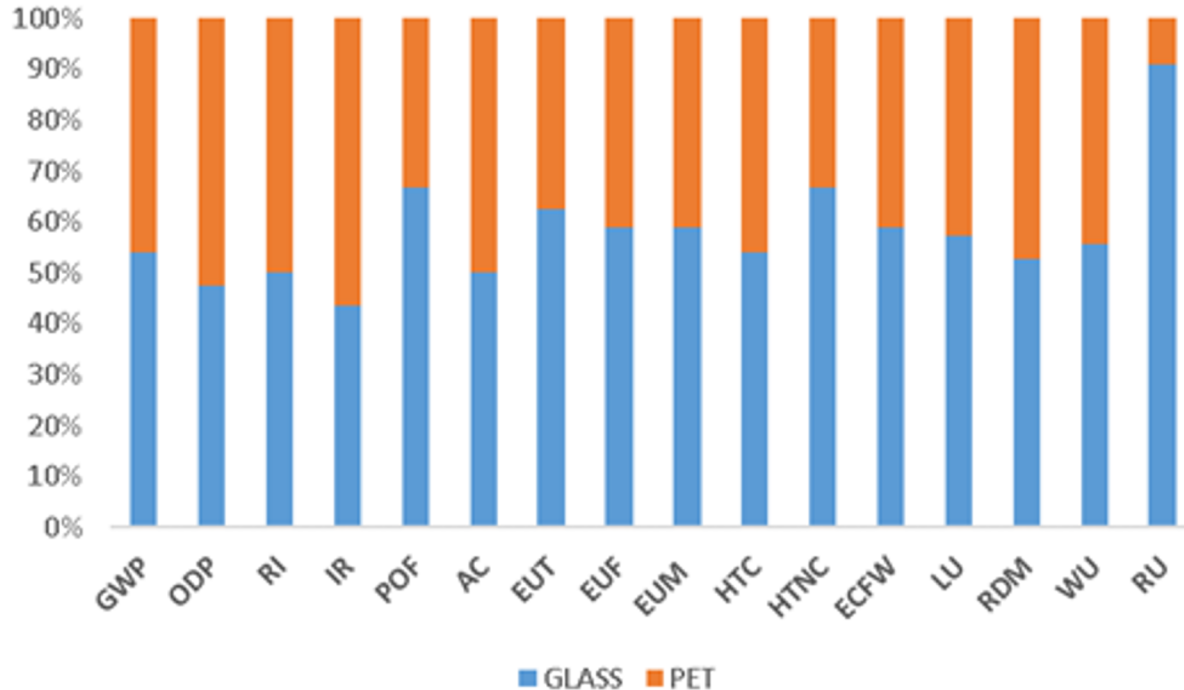
Conclusions

- With the development of this app, we are able to offer to consumers a tool to be informed about the environmental impact of the packaging of the product they are buying

- Using this app, consumers can make decisions based on the environmental impact of packaging in order to reduce their environmental footprint

- Due to the interest and usefulness of this app, producers who use packaging with lower environmental impacts will benefit

- Similarly, producers using packaging with higher environmental impacts will be forced to look for more sustainable alternatives in order to remain competitive from this point of view

- The presented objectives have been fulfilled