

**Lerningo - learning English is like a game. Aprender inglés es divertido.**

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## Lerningo Mobile App



**Find me! - Scan me!**

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## Problem definition

We are a group of creative and motivated people who wish to improve our world for a better life. We analyzed some problems in the group and choosed at first the problem like “A Lack of budget for a public education”. For our analysis we have chosen two methods: “Persona map” and the “DIY Problem Definition” method. We have started with the “DIY Problem Definition” method to understand in what way the problem “A lack of budget for a public education” could be solved. See the *1.1 table “DIY Problem Definition” method*.

<b>What is the key issue you are trying to address and why is it important?</b>	<b>Who is it a problem for?</b>	<b>What social/cultural factors shape this problem?</b>	<b>What evidence do you have that this is worth the investment?</b>	<b>The same problem in a different way. Reframe the problem.</b>
Not the same opportunities for rich people and poor	students, citizens, country	People are going to opt for a private education, which will make them bet less and less on public education	Some people don't have a chance to improve their life and invest their ideas in a new future for a good life.	No equality in the education system
Not efficient learning of English in the school		Emigration of people to different cities or countries that offer better education conditions and the emigration of the people	Investing in the future	Poor education and lack of professionals

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		that study in a country and after that they are not well paid so they go to another country with better salary		
Slowly developing of your ideas and wishes - restricted rules in the school		The development of the new technologies are slower than they could be because of the lack of investment in new generations	People can be damaged, or ill from the low professionalists. People are in the bubble and closed in their mind. People can't understand some political, economical and social evidences.	Stagnation, no developing and working on yourself in the future
A lack of professionals			unemployment	Small marketplace. Necessity of good professionals
Public schools are not popular		No support from government, government departments, which are responsible for education or support from external organizations	closing of some schools, no renovations	
Low results of economic, science, inventions		Education will be not in the first place of investing some moneys, import and export economy,	Other countries have tried it (like Germany) and it works but on the other hand countries like Spain must	Governmental budget is not spent in the right fields / too less in the most important fields

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		infrastructure	focus on the investment in the public education and on the young people	
Not enough resources in public schools			Other countries with an overall better education have a better worldwide competitiveness	Education will be not in the first place of investing some moneys

1.1. Table: “DIY Problem Definition” method

After some analysis we came to our final topic “The differences between the educational levels of English in Europe with focus on Spain”.

There is a difference between the education in other countries in Europe and Spain. We analyzed the school system in Germany and Spain and understood that in Spain there are more people who can’t speak and understand English well. See *table 1.2. “Definition of the problem”*.

<b>Problem definition in Spain</b>	<b>Solution in Germany</b>	<b>Our idea</b>
Not good teachers	Teachers are using e-educational resources in all departments of learning(listening, reading, writing, communication)	An App that makes learning english fun (keyword gamification)
Not a good system of teaching (only writing and reading, without some	Combined system of education	Focus on this school "la fuensanta" by hiding a bunch of QR-Codes

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speaking and communication skills improving methods)		within the school
Not enough English communication skills	Using different methods in the lessons	A QR-Code is tied to one physical object (chalkboard, trash can)
No interesting materials on the lessons	Combining the ideas and materials on english lessons	A QR-Code shows the spanish word of the object. After being scanned, the user sees the english word and needs to write it into a field to mark this object as completed within the app. You receive points for completing objects in the app. Points could be exchanged for rewards (sweets in the cafeteria maybe, equipment like pens etc...)
More or less opportunities to exchange	Erasmus programm, DAAD, apprentership	App to connect with other native speakers.
You should gave a lot of money for a private course	Online courses, youtube for free, udemy, linked learning	App can be for free.
Teachers cannot do the lessons in english because some students don't understand him	Self education, combination with other methods in english lessons	Teachers can create his own methods in the app for lessons.
Students without money can't study English, can't buy an english certificate	In Germany there are some support from the educational department or external organisation (ASP Stiftung, Arbeitsagentur)	App for free
There is no need in english, because of agriculture sphere	There are many jobs were at least a basic level of english is required	The app will also exchange students, because it could be configured in other languages.
No english literature, no	A lot of information,	The app should integrate

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films or programmes integrated on TV, no games in English, no translation for some cultural monuments their history	organizations, workers	students in some real life and it will help to study some objects with fun. Trying to mimic parts of the "Pokemon Go Mentality"
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1.2. Table "Definition of the problem"

### Our goals


We decided to create our own application to **improve the English language in the School IES La Fuensanta** and **motivate children to learn it**. We will combine reading and writing skills. Moreover the students will have the opportunity to compete with each other and have fun every day.

To understand our user we have created our "Persona map" template and written an example of how simple and successful it could be implemented in the school. See picture 1.3. "*Persona map*".

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**Alejandro**SHORT NAME  
AP

**IMAGE**




**BUDGET**

0 euro

**KEY MOTIVATION**

games, new activities

**CURRENT MOOD:**



**PERSONALITY**

active, curious, thirst for knowledges

**FRUSTRATIONS**

- ▶ boring English
- ▶ it is bored in the class
- ▶ problems with speaking English

**MOTIVATION**

- ▶ compete with his friends
- ▶ new way of learning
- ▶ playing games

**A DAY IN THE LIFE**

Today was a perfect day to communicate in English with some exchange students from Germany. But AP was shy and had not so much experience in English. He was so upset and wanted to learn English fast and in a new way, and he found "Lerningo app". It opened a new door to the interesting learning of English language. He scanned a QR code on the table and learned a word of table, then board, than computer .. and so did he the whole day in his classroom. It was something new for him. His friends learned too. It was a great competition between them.

## 1.3. "Persona map"

### Our view of the application

We want to present to you our English - Spanish mobile app, which can be used in school. The whole idea of the app was discussed and made collaboratively with Spanish and German students. No matter who uses it, you will learn English around you every day in school. Find the object with a QR Code. Just open the application and scan a QR Code and you will get the word in English and translation in Spanish. After the translation you can type the right word in the table. It helps you to remember the word. Correct

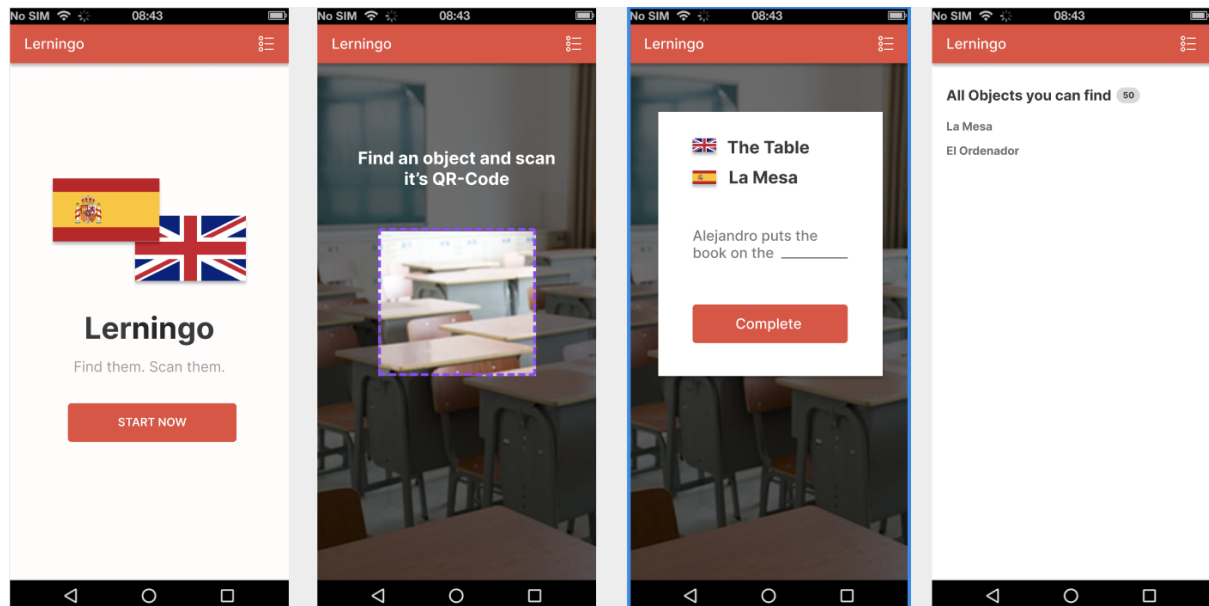


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answer gives you some points. You can compete with your friends in the class and in the whole school. Have fun!

Below you can see our prototype of the app. See picture 1.4.

*“Figma prototype of the “Lerningo” application.*



*1.4. Prototype with Figma design of the “Lerningo” application*

## Planning of the project

### Risks in the project

We should be aware that the project will have some risks and possible problems during the implementation phase and user experience phase. But we are sure that our app could be used properly in this school and slowly implemented for achieving learning goals.

Below are some examples of the risks, which could be recognised in the planning phase. See *table 2.1 “Risks in the different departments”*.

Department	Risks
Finance	No budget, no support, no patented product rights
Markt	Competition between other language apps, redundancy, not useful app
Developing	High hardware resources usage for a future implementations based on the network accessibility, need of experienced software and mobile app developers
	Compatibility with other extensions, OS, devices
Government, School	Using of mobile phones in the school is prohibited

2.1. Table “Risks in the different departments”

## Hardware & Software analysis

For achieving our goals we should test our first version of the application in the school and analyze the first user experience. We used the lightweight and common known software developing programs and our own hardware resources (Laptops).

<b>Needs</b>	<b>Products</b>	<b>Reason why</b>
Hardware	Laptops (Windows, Linux, MacOS Systems)	Hardware to store all components and to have access to the Internet
	google.drive (SAS solution from google)	There will be stored our files to share and exchange our ideas
Software	Flutter	Flutter is a simple way to implement a lightweight application on the common known mobile app platforms
	Sqlite	Sqlite is a good solution to import our learning data from a database
	XCode	XCode could be viewed for a implementation of apple systems
	Android Studio Code	Android Studio Code is our developer environment to work collaboratively. It will be used together with the github repository.
	Figma.com	Figma web application will be used for app design structure and MVP (minimum viable product) implementation. See picture 1.4.
	Github	Our developers platform to work collaboratively and share our code with

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		each other.
	Trello Board	Trello Board will be used to implement our agile methods to coordinate our work. There we have our roles and goals for the day, work in sprints and backlogs. Moreover the tasks will be also splitted between members.

2.2 Table “Hardware & Software analyse”

## Lerningo application analysis

For the successful and detailed analysis of the application we have used the “Disney method”. See table 2.3 “Disney method”.

<b>Dreamer</b>	<b>Realist</b>	<b>Critics</b>
The object will be recognised without qr code (AI solution), the school will use her own database and will use the system in all schools in Spain	We should specify our resources wich we need, all objects from the database, what configurations we need	It could be impossible to create our complete finished and functional app because of time
Collection app to scan objects and receive points to spend on physical things (free food, toys)	We would need programers, a server, budget and partners to provide offers	Long Term Motivation? Where to get the budget from?
Camera based app that recognises objects and translates into whatever language you need	Camera based game where you can scan a QR Code on an object and it tells you what it means in english. The idea is possible to implement.	Will the AI work properly? Do we have enough data to recognize all important objects? Are we allowed to put QR code stickers everywhere?
Make a weekly ranking and be able to earn some extra points	We would need to make winning the weekly competition an eye-catching prize for	People normally like to compete but if we don't make an app that is eye-catching and easy to

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	thewinners	use, people won't use it
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### 2.3 Table "Disney method"

It helped us to understand our first and minimal goals to implement the first test version of the application in the school IES La Fuensanta. We understood that we need **a high functional qr code scanner, a list of definitions of objects in the school (English,Spanish) and tasks** for children to remember those definitions.

## Organization of the work in the group

For the good and effective organization of our project we have used agile methods. For this purpose we have distributed our roles and organized a scrum board.

Role	Name	Function
<b>Scrum master</b>	Veronika Tyshchenko	Coordination of the work in the group, tasks distribution, software organization and documentation of the project, searching for a possible code solutions for application
<b>Product owner</b>	Luca Heinrich	Developing of the application idea, implementation of the important and minimum functions in the code
<b>Scrum development team</b>	Tim Kommerasch	Database creation, import the data in the application
	Alejandro Cabello	Translation of spanish words and sentences, developing of the idea of the project, help with organization of qr codes, consulting about relevant

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		problems in Spain, design of the application
	Alejandro Poyato	Developing of the idea of the project, help with organization of qr codes, consulting about relevant problems in Spain, design of the application

2.4. Table "Scrum Roles in the group"

## Project workflow

### Sprint 1: Definition of MVP. Design of the app.

We created our checklist what we should do:

- Scan a QR Code
- QR Code with id mapping to data in a database
- A Database creation
- Script for generating a qr code
- GUI implementation
- Printer to print QR Codes
- List of objects to scan
- Students to test the app

And then did a design of the application. See picture 1.4.

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## **Sprint 2: Developing set-up**

- Git repository for all
- Flutter start the programming code and environment
- Installation of extensions for flutter
- Implementation of the words in the application

## **Sprint 3: Developing process**

- Implementation of the prototype design
- Finding solution for the problems with databases implementation, syntax in the code experience with Dart language

## **Sprint 4: Preparation for the presentation**

- Test the application in the group
- Organization of the presentation
- Summary of the experience

## Possible implementations

<b>Idea</b>	<b>Description</b>
Account for students and teachers	Children can see the results from others and compete with each other and do some challenges. Teacher can create his own learning field and check the score of the children.
Connection between other schools	The app could be implemented in more than one school and each school could be connected with each other with this app. The students could have the competition as well.
New exercises to learn English	Using new methods to learn English, combining different methods like listening, speaking and writing. Creating new functions and exercises in the application.
Generate a QR Code for a teacher account	Future implementation could be a simple way to create a learning field for English lessons

*3.1. Table "Future implementations"*



## Our experience

Thanks to the Erasmus program we had a chance to take advantage of the exchange program and be a part of a global education. In a native speaker environment we have learned other cultures, other learning methods, other interesting ways of thinking. It was really funny to create something new. We have understood that learning and working together can be a reason for a successful and creative project despite our strengths and weaknesses. Our feedback and thanks to our teachers:

“This experience has seemed fantastic. I have learned how to work in a team, I have learned to get along better with English and I have learned that the language barrier is not real, if you want to communicate, you can do it anyway. Without a doubt, an experience that I will not forget”.

“It was a very cool experience to work with the Spanish fellas. The communication was good and got even better almost every day. It was so much fun to not only work together, but also get to know their habits, culture and language. Our product idea was a success. I deepened my database skills a lot and also learned a little bit about how to develop an app with android studio and flutter. I recommend everyone to be part of this kind of workshop if possible and I absolutely would do it again if i could!”.

“It was a beautiful experience that we can work with people from other countries so we can understand the way of thinking from other countries. I have been so comfortable working with them and the communication has been improving every day. I also learned a little bit of programming, how to design an app and I have improved my teamwork skills too. I practiced my English speaking and that's

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always good and learned how to develop an app. I enjoyed this experience a lot and I would like to repeat it”.