



# LeARN to cook

Cooking  
application

USER  
GUIDE

October 2020

**v1.0**

INNOSID

Innovative Solutions based on Emerging Technologies for  
Improving Social Inclusion of People with Disabilities

Project identifier: 2019-1-HR01-KA203-060959

# Contents

<b>1</b>	<b>Product at a glance</b>	<b>3</b>
1.1	Story . . . . .	3
1.2	Solution . . . . .	6
1.2.1	Cookbook . . . . .	8
1.2.2	Editor . . . . .	8
1.3	Games (for AR supported devices only) . . . . .	9
1.3.1	Markers . . . . .	9
1.3.2	Learn . . . . .	10
1.3.3	Find . . . . .	11
<b>2</b>	<b>Getting started</b>	<b>11</b>
2.1	Basic . . . . .	12
2.1.1	Explore the existing recipes . . . . .	12
2.1.2	Play a recipe . . . . .	14
2.2	Intermediate . . . . .	16
2.2.1	Create your first category . . . . .	16
2.2.2	Create your first recipe . . . . .	18
2.2.3	Share your first recipe with others . . . . .	22
2.3	Advanced . . . . .	22
2.3.1	Print markers for games . . . . .	23
2.3.2	<i>Learn</i> . . . . .	26
2.3.3	Play a <i>Find</i> game . . . . .	28
<b>3</b>	<b>Frequently asked questions</b>	<b>30</b>
3.1	Categories . . . . .	30
3.1.1	How can I view the list of available categories? . . . . .	31
3.1.2	How can I delete a category? . . . . .	31
3.1.3	How can I rename a category? . . . . .	32
3.2	Recipes . . . . .	33
3.2.1	How can I delete a recipe? . . . . .	33
3.2.2	How to modify a recipe? . . . . .	34
3.2.3	Why I can't modify existing INNOSID recipes? . . . . .	36
3.3	Games . . . . .	36
3.3.1	I can not play games on my phone, what is wrong? . . . . .	37
3.3.2	Why won't the game detect a marker I printed? . . . . .	37
3.4	Settings . . . . .	37
3.4.1	How can I change the background? . . . . .	38
3.4.2	How can I change the application language? . . . . .	38
3.5	Technical support . . . . .	39
3.5.1	What is augmented reality (AR)? . . . . .	39
3.5.2	Do I have an AR-supported device? . . . . .	39
3.5.3	What happens if I uninstall the app? . . . . .	40
3.5.4	What is PDF? . . . . .	40
3.5.5	Where can I find more support? . . . . .	40





# 1 Product at a glance

## 1.1 Story

Once upon a time there was a boy called David who lived with his parents Sara and Mateo.

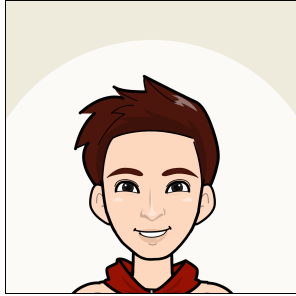


Figure 1: Son David

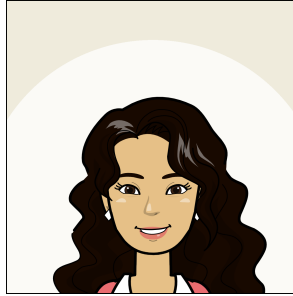


Figure 2: Mum Sara

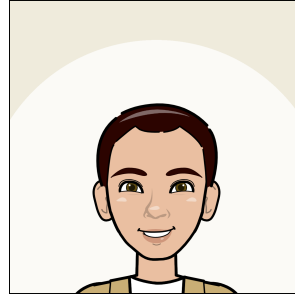


Figure 3: Dad Mateo

David developed an interest in cooking while watching his favourite cooking show on television.



Figure 4: David is watching the Cooking show



Figure 5: The Cooking show on INNOSID TV channel

After spending countless hours in front of television, he finally decided to give cooking a try and cook a very tasty Spanish dish **Paella Valenciana**. Mum Sara was very happy with the son's idea so she was more than ready to offer some help. Dad Mateo volunteered to be a judge, just like the one from the cooking show.

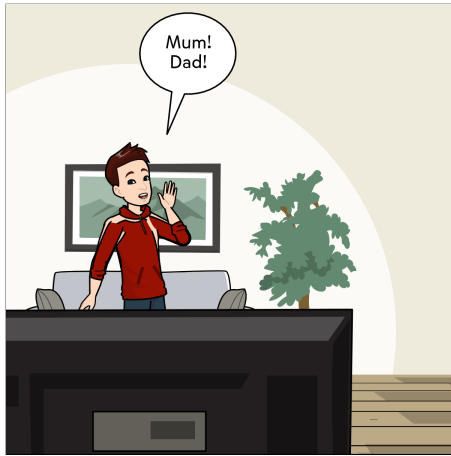


Figure 6: David has come up with a brilliant idea...



Figure 7: The cooking team is ready to cook Paella Valenciana!

They say that every beginning is hard, and the same can be said for David's cooking efforts. In particular, he faced three challenges.

**First challenge** - David would like to cook Paella Valenciana but mum Sara cannot find the recipe in her dusty old cookbook.



Figure 8: To cook the dish, David needs the recipe.



Figure 9: Sara is looking for the Paella Valenciana recipe.

**Second challenge** - Sara has a lot of excellent recipes but they are scattered across many notes which are hard to sort.

**Third challenge** - David would like to know a bit more about some of the ingredients but Mum's cookbooks do not have interesting facts about them.



Figure 10: Sara has a lot of cookbooks and handwritten recipes. Sara always struggles to arrange and organise those recipes.



Figure 11: David is curious and always asks his mum to tell him interesting things about the ingredients they use for cooking.

To make the long story short, David and Sara eventually manage to cook a delicious Paella Valenciana with a bit of help of a certain IT tool which enabled them overcome the aforementioned challenges.

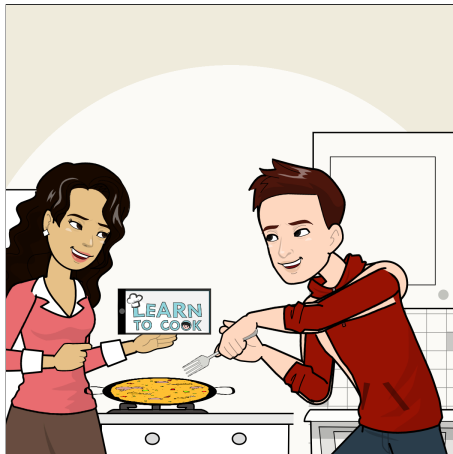


Figure 12: The IT tool that helped David to cook Paella Valenciana is *LeARN to Cook* application!



Figure 13: Sara, David and Mateo are joyful because the IT tool help them to cook Paella Valenciana.

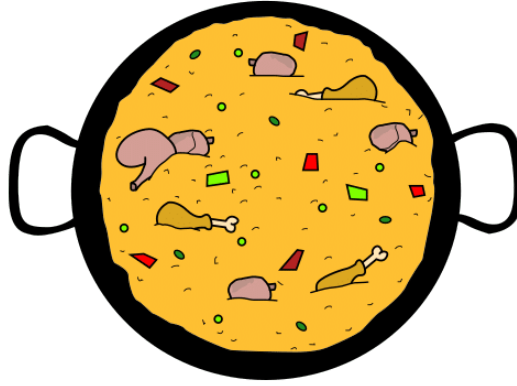


Figure 14: David’s paella. Dad confirmed that the dish was delicious and gave it a 10 out of 10 points!

## 1.2 Solution

In order to help people such as David and Sara, the ”LeARn to Cook” application (hereinafter: app) was designed as a **virtual cookbook** with a support for augmented reality (AR) based games<sup>1</sup>.

The app is available for Android devices, including **tablets and mobile phones**, and it has a **multilingual support** for English and Croatian language. In general, the users are able to:

- play the interactive recipes,
- create, update and delete their own recipes, and
- play AR-based games.

The cornerstone of the app are the **recipes** which are represented with **symbols**. Each recipe belongs to a certain **category**.

---

<sup>1</sup>AR games are only available on Android AR-supported devices. More details about the supported devices can be found here: <https://developers.google.com/ar/discover/supported-devices>.

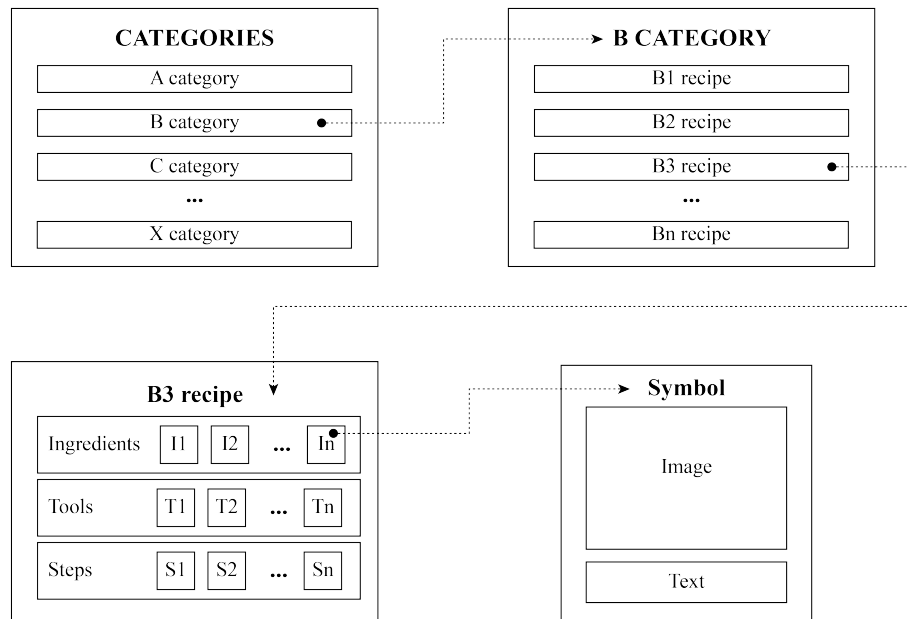


Figure 15: Graphic visualisation of categories, recipes and symbols on a conceptual level.

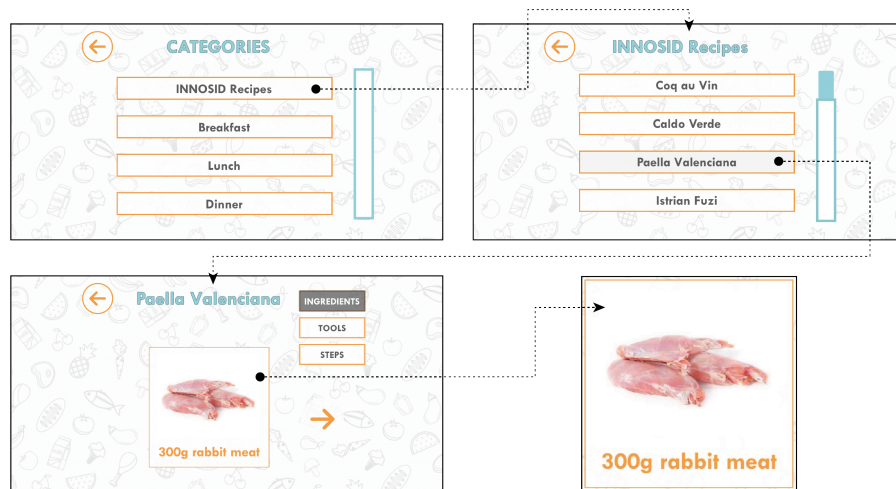


Figure 16: Visualisation of categories, recipes and symbols in *LeARn to Cook* application

The app uses such representation to help people with disabilities using the

well-known concept of augmentative and alternative communication (AAC)<sup>2</sup>.

If you want to know how David, Sara and Mateo use the application, read more about the app's key functionalities in the following subsections.

### 1.2.1 Cookbook

Cookbook is a feature of the *LeARn to Cook* application for viewing previously created recipes. Every recipe consists of three components: ingredients, tools and steps. Ingredients are a list of groceries, while tools are kitchen utensils and equipment that are required for cooking the dish. Steps represent the correct sequence of actions that include ingredients and tools in order to cook dish properly. Every ingredient, tool and step is represented with a symbol, located in the centre of the screen. Every symbol has a name and an image.

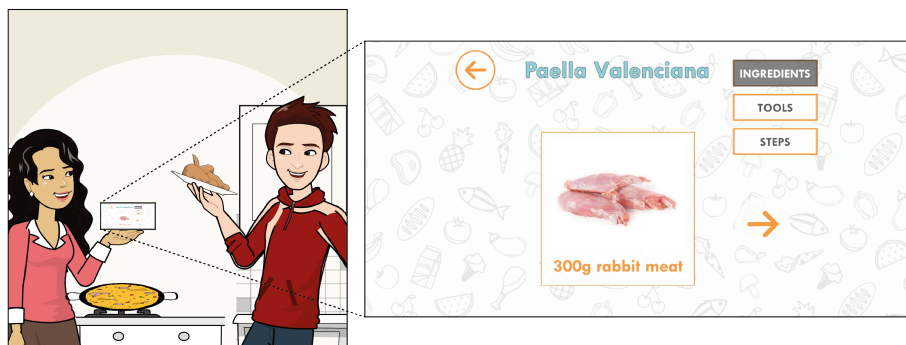


Figure 17: David and Sara used the Cookbook feature of the *LeARn to Cook* application to cook Paella Valenciana.

### 1.2.2 Editor

The Editor is a feature of the *LeARn to Cook* application for editing existing and adding new recipes. It is possible to add, delete and edit ingredients, tools and steps for each recipe. Additionally, category the recipe was created in can be changed which helps in better organisation of recipes.

<sup>2</sup>In simple terms, AAC includes different ways we use to share our ideas and feelings without talking. Crash course on AAC is available as an open educational resource at Global Symbols: <https://training.globalsymbols.com/>

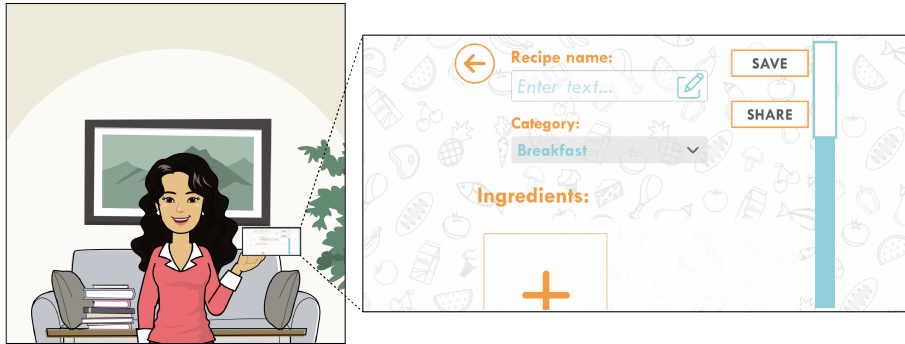


Figure 18: Sara uses the Editor feature of the *LeARn to Cook* application to store her recipes. Now she has a better recipes overview and can easily find recipes she created.

### 1.3 Games (for AR supported devices only)

Games are the entertaining feature of the *LeARn to Cook* application. There are two games for AR supporting devices:

1. Find and
2. Learn.

In order to play the games properly specific markers are required. Therefore, in the following sections you will find instructions on how to use these markers. Additionally, Find and Learn games are explained as well.

#### 1.3.1 Markers

Markers are visual targets where virtual information is displayed. In the case of the *LeARn to Cook* application, markers are real world pictures of an ingredient. The markers should be printed using your printer and placed in a room with a good lighting conditions. Section 2.3 provides instructions how to print and use the markers in AR games.

The application uses a camera from your device to scan the marker and recognise the ingredient on the marker. While playing the games, a 3D model of the scanned ingredient is displayed over a marker. Markers are used in both games which are more thoroughly described the following text.





Figure 19: Mateo is searching for the watermelon marker using the application. An enlarged image of the marker is on the left.

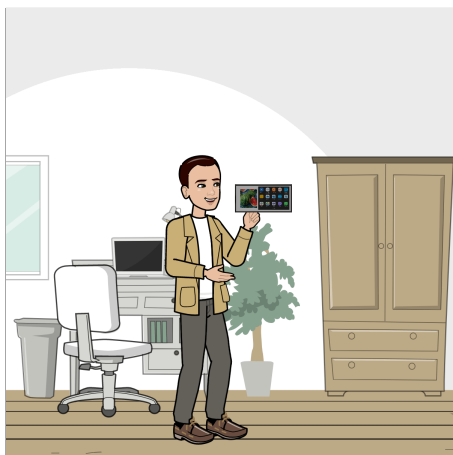


Figure 20: Mateo is sharing the watermelon marker via e-mail so that he can print it.



Figure 21: Mateo successfully printed a watermelon marker on a sheet of paper.

### 1.3.2 Learn

Learn is a game mode designed for finding out interesting facts about ingredients. After scanning the marker while playing this game, the corresponding 3D model is displayed over it.



Figure 22: Mateo and David are scanning the watermelon marker in Learn game. The corresponding 3D model is displayed and the little chef presents an interesting fact about watermelon.

### 1.3.3 Find

Find is a game mode where the objective is to find, i.e. scan required marker (ingredient). Name of the ingredient that needs to be scanned is displayed in the upper centre section of the screen. After scanning the correct ingredient the number of points in the game is increased and the name of the next ingredient to scan shows up on the screen.

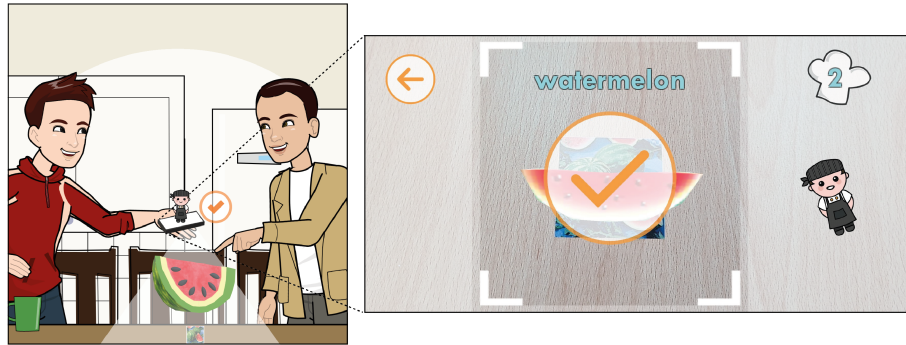


Figure 23: Mateo and David are scanning the watermelon marker in Find game. The corresponding 3D model of a watermelon is displayed and the little chef increases the number of points in the game.

## 2 Getting started

Let's explore together the three main features of the *LeARn to Cook* application. Look at the next figure to see what those three main features are.



Figure 24: This is the main screen of the *LeARN to Cook* application with *Cookbook*, *Editor* and *Games* being the three main features of the application.

## 2.1 Basic

Tap the first button from the main menu on the main screen of the application to see all of the recipes hiding in the *Cookbook*.



Figure 25: The main screen with the selected first feature: *Cookbook*.

### 2.1.1 Explore the existing recipes

When you tap the *Cookbook* button, the screen with *Categories* opens up. Here you can see all of the existing categories, each containing different recipes.

*Breakfast*, *Lunch*, *Dinner* and *INNOSID Recipes* are the default recipe categories where the first three (*Breakfast*, *Lunch* and *Dinner*) are empty, while the *INNOSID Recipes* category contains INNOSID partner countries' traditional recipes.



Figure 26: The screen with recipe categories listed.

If you tap one of the first three categories (for example *Breakfast*), you will see the screen with the message saying there are no recipes in that category. This message will also be shown after tapping any newly created category until the first recipe is added to the category.

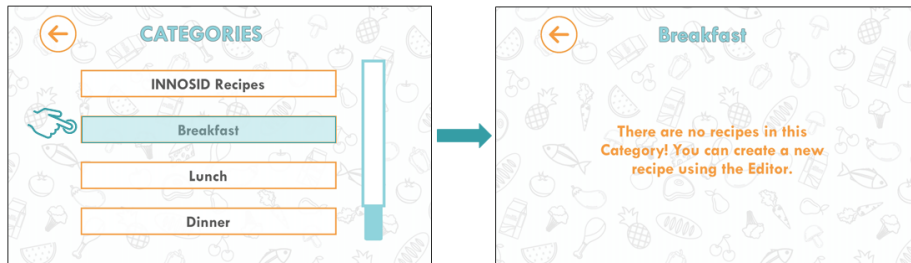


Figure 27: The screen with the list of recipe categories listed and the screen after selecting one of the default categories: *Breakfast*.

If you tap the *INNOSID Recipes* category, you will see the screen that shows INNOSID partner countries' traditional recipe names ready to be played (and cooked :)).

Don't forget to scroll down to see all 5 recipes.

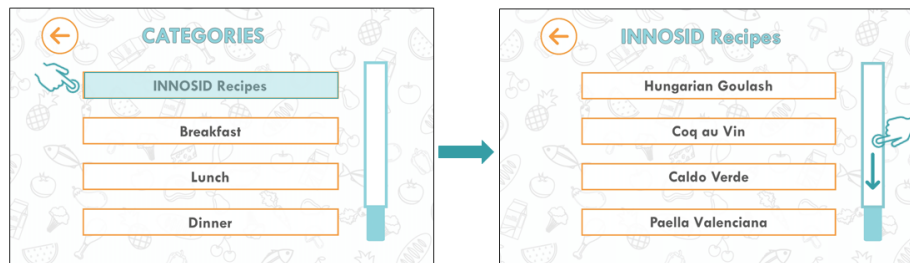


Figure 28: The screens with the list of categories and INNOSID recipes.

### 2.1.2 Play a recipe

Let's see how we can explore a certain recipe in detail. To play one of the recipes, tap on one of the recipe names from the list (for example *Paella Valenciana*).



Figure 29: The screen with the selected INNOSID recipe.

When the screen with the selected recipe opens up, you will be able to see the ingredients, tools and steps necessary for preparing the dish.



Figure 30: The screen with the selected recipe and instructions on how to explore it.

If you tap the *Tools* button, you will see the symbols or pictures of the tools necessary for cooking this traditional dish (e.g. paella).



Figure 31: Exploring the tools of the recipe.

If you tap the *Steps* button, you will see the steps necessary for cooking the selected dish. Every recipe can have more than one step and every step can contain several smaller actions that describe how to cook a meal in the right order.





Figure 32: Exploring the actions of each step of the recipe.

## 2.2 Intermediate

Let's move on to the next level. Tap the *Editor* button in the main menu, on the main screen, to see how you can create your own categories and recipes, as well as share your recipes with friends and family :).



Figure 33: The main screen with the second feature selected: *Editor*.

### 2.2.1 Create your first category

When you tap the *Editor* button, the screen with *Categories* opens up. On this screen you can create your own category by tapping the *Plus* button.



Figure 34: The *Editor* screen with the list of existing categories and the option to add a new category.

The first step when adding a new category is to enter the category name in the text field and the second is to tap the *Add* button.

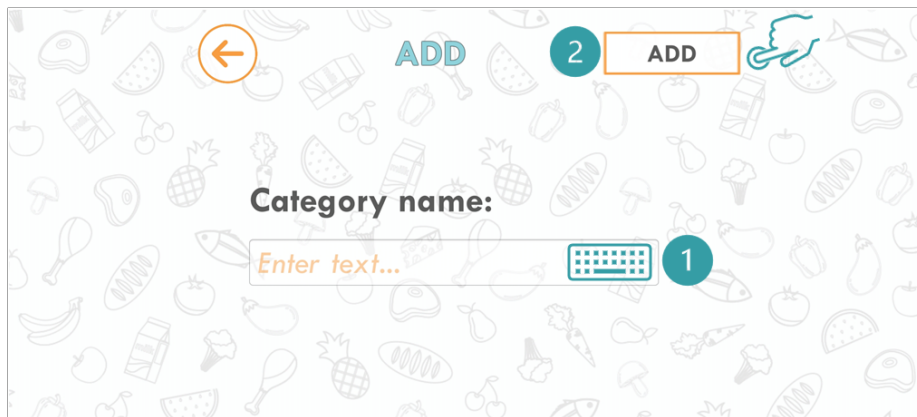


Figure 35: Entering a category name and adding new category.

Once you have created your first custom category, you are ready to create your first custom recipe!

After adding a name for your category (for example *David's favorites*), you will see the screen showing the name of the newly created category. A new recipe can be added to the selected category by tapping the *Plus* button.





Figure 36: Adding a new recipe to the newly created category.

### 2.2.2 Create your first recipe

First thing you need to do when creating a new recipe is enter the recipe name. After that, you will want to add the first ingredient to your recipe. Tap the big *Plus* button under the *Ingredients* panel to add the first ingredient.



Figure 37: Filling out the recipe name and adding the first ingredient.

When you click on the *Plus* button to add a new ingredient, you will see the screen entitled *Add ingredient*. You can add an ingredient using 3 different sources, the options are shown in the screenshot.

Let's say we want to add a recipe for making the perfect pancakes :). Then, the first ingredient we will add could be, for example, flour. We can choose a symbol for flour from list of existing symbols. Tap the second button to add a symbol from the list of existing ones.

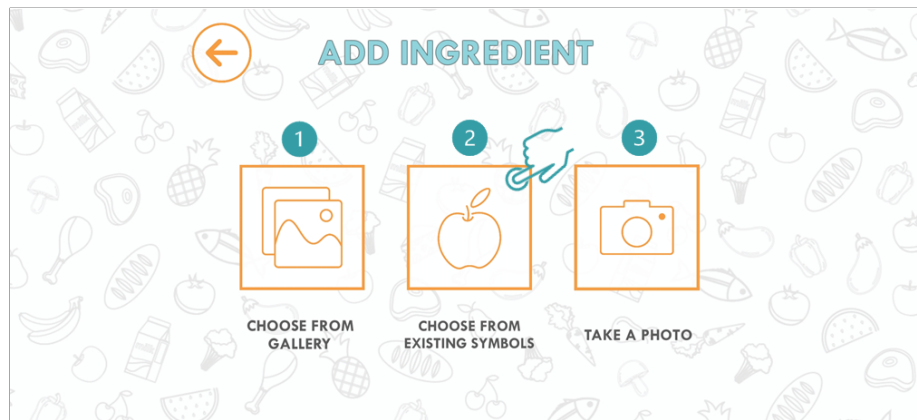


Figure 38: Add the first ingredient by tapping the second button that will lead you to the list of the existing symbols for ingredients.

After that, you will see the screen with listed existing symbols for ingredients. Here you can scroll through all of the ingredients that are saved in the cookbook (default ones and the ones you save will be listed here) or you can search for the ingredient you need using the search bar at the top of the screen. After finding the ingredient (e.g. flour), you can add it to the recipe by selecting it with a tap and clicking the *Next* button.



Figure 39: Choose the first ingredient by scrolling through all of the listed ingredients or search for a specific ingredient. After that select the ingredient and tap on the *Next* button.

On the next screen you can change the ingredient's name and add it to the recipe by tapping the *Add* button.

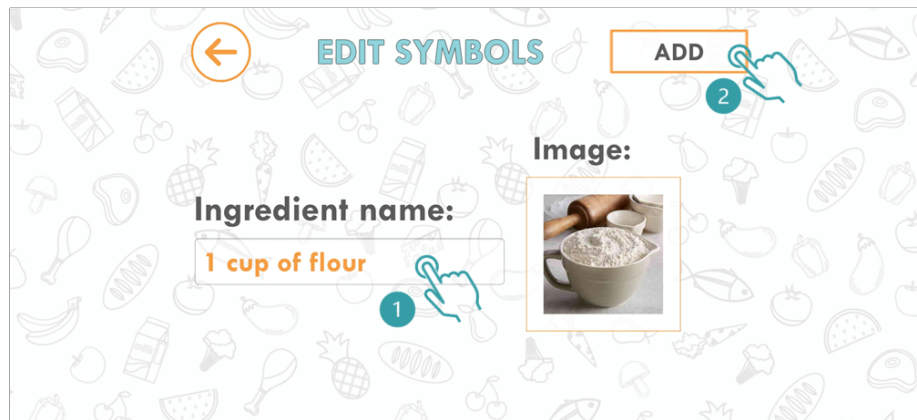


Figure 40: Change the ingredient's name if needed and add it to your recipe.

You can repeat the previous steps for all of the ingredients you need for your recipe. Tap the *Plus* button in the *Ingredients* panel to continue adding new ingredients :).

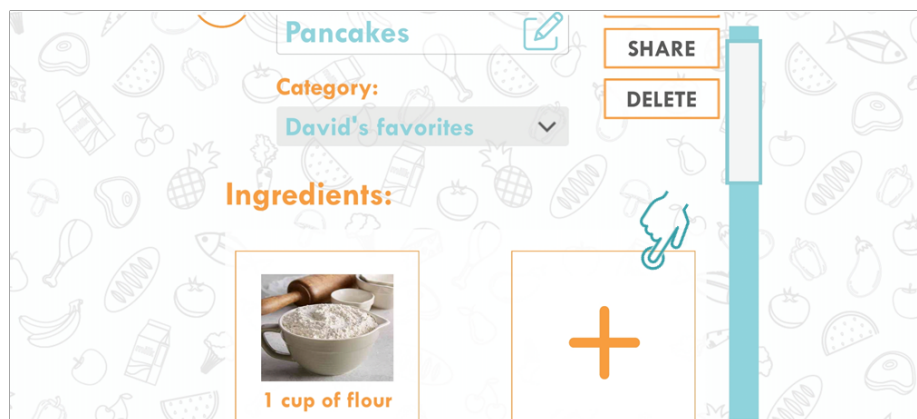


Figure 41: Continue adding the rest of the ingredients for your recipe.

After adding all of the necessary ingredients, you can add the tools you need to make pancakes, e.g. bowl, pan, cup, ladle etc. the same way you added the ingredients. Tap the big *Plus* button under the *Tools* panel and add all the tools that you need for your recipe :).

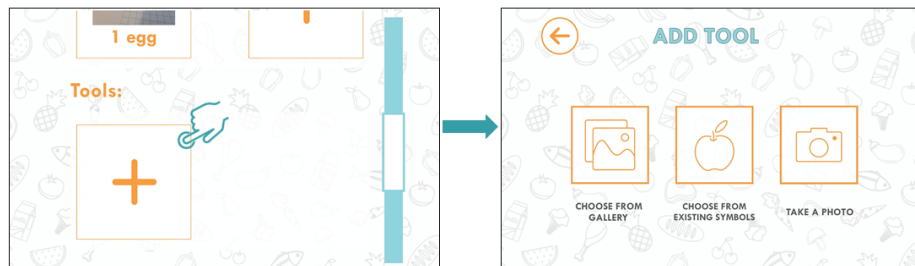


Figure 42: Add the symbol for the first tool necessary for your recipe. Choose one of the three options for adding the symbol/picture and the name for your tool.

After adding all the necessary tools, you can add the actions for every step in the process of making the pancakes the same way you added the tools. Tap the *Plus* button to add the first action in the *Step 1* panel :).

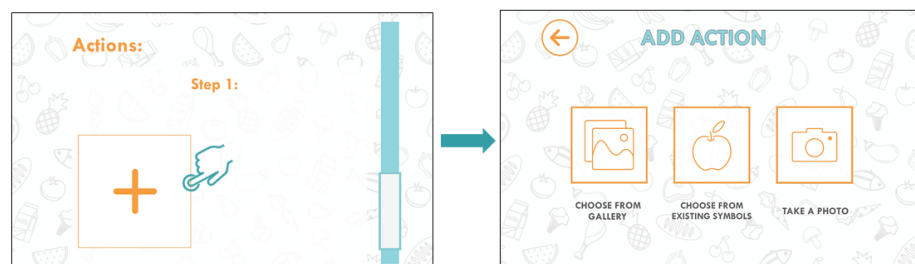


Figure 43: Add the symbol for the first action in the first step of your recipe. Choose one of the three options for adding the symbol/picture and the name for your action.

After adding a single action in the step, you will have the option to add a new action in the same step, to delete the last added step or to add a new step and actions related to that step. Continue adding new steps with actions until you are finished :).



Figure 44: Continue adding the rest of the actions and steps you need for your recipe until the very last action in the very last step :).

### 2.2.3 Share your first recipe with others

After you have created your first recipe, you can share it with your friends and family. Just tap the *Share* button in the *Edit recipe* screen and select the application for sharing your recipe in the PDF form :).



Figure 45: Share the recipe you created with your friends and family. Tap the share button! :)

## 2.3 Advanced

The advanced level includes the third main feature of the *LeARN to Cook* application. This feature can be found behind the *Games* button located in the main menu of the main screen so tap it and let's explore the games together :).



Figure 46: The main screen with the third main feature of the application selected.

When the *Games* screen opens up, you will notice a menu containing three buttons: *AR markers*, *Learn* and *Find*. Without the AR markers, you will not be able to play the games (*Learn* and *Find*). Also, it is important to emphasize that in order to start the games, your device must have support for AR services (the little chef on the *Games* screen is warning you about this requirement). Find out more information regarding this under the *Frequently asked questions* chapter.

Tap the *AR markers* button to see what is hiding behind it. :)



Figure 47: The *Games* screen with *AR markers* button selected.

### 2.3.1 Print markers for games

When you tap the AR markers button, the screen will show the symbols for ingredients which serve as AR markers for the games. An AR marker, once it is



scanned with the device camera, a virtual 3D model representing the ingredient appears on the marker.

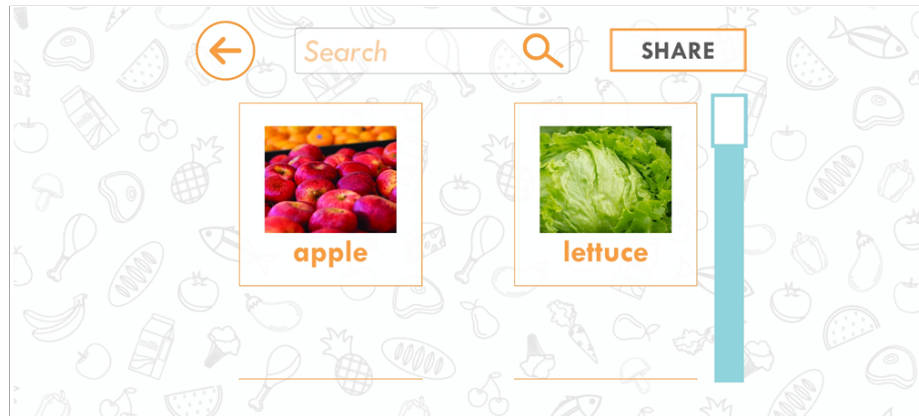


Figure 48: The screen with the list of ingredient symbols representing the AR markers for the games.

On the screen with the AR markers you can scroll through the list of symbols (1) and select the ones you would like to share, i.e. to scan in the games (2). Once you select the first symbol, a button enabling you to select all of the symbols pops up in the lower right corner of the screen. If you tap it, all of the symbols will be selected (3) and the next step is to tap the *Share* button (4). This tap will create a PDF document with the selected symbols and ask you to share it via one of the applications you use, such as WhatsApp or Viber, you can also to send it via e-mail to yourself, for example, after which you will be able to print it out.

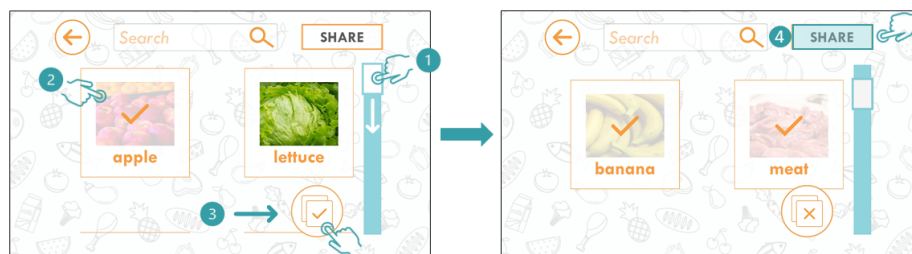


Figure 49: The screens with ingredient symbols and steps showing how to select them and share the PDF document containing them.

Once you print your AR markers, they will look like the ones from the Figure 46. The AR markers in this example are printed in color, but if you print them in black and white, that will be fine, too, i.e. the device's camera will be able to detect them and you will be able to play the games.



Figure 50: The document with ingredient symbols representing AR markers for the games, after printing.

For the best AR experience in the games, we recommend you to cut out the markers (ingredient symbols) using scissors.

Once you have done that you are ready to play the AR games! :)





Figure 51: Steps showing how to prepare the document with AR markers to be able to use them in the games.

### 2.3.2 *Learn*

The first game we will explore is the *Learn* game. In this game you can use each and every one of the AR markers that you have printed out. Tap the *Learn* button to see what happens.



Figure 52: The *Games* screen with *Learn* selected.

Once you tap the *Learn* button, the screen with your camera view opens up. This enables you to scan the marker making sure it fits in the square frame with the white edges.



Figure 53: Start screen of the *Learn* game.

After you position the AR marker inside the square with white corners (1), the device's camera will scan the marker and after recognizing it, a 3D model representation of the symbol ingredient on the marker will show (2). Along with the 3D model, little chef will pop up with some interesting fact about the scanned ingredient on the right side of the screen.

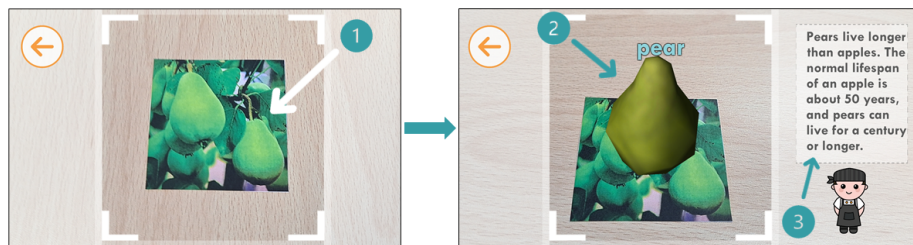


Figure 54: Steps how to scan the printed AR marker to show a 3D model representation for the scanned ingredient marker and an interesting fact about the ingredient.

On the next figure you can see another example of the scanned AR marker with a 3D model representation of the watermelon. We hope that this game will be interesting to you because you can **leARn** a lot of new and interesting facts about different ingredients. :)

At any point, you can tap the *Back* button to exit the game.



Figure 55: Another example of the scanned AR marker and an interesting fact about the watermelon.

### 2.3.3 Play a *Find* game

The next game is named *Find*. In this game the goal is to find certain ingredient, i.e. to scan the AR marker of the specified ingredient. Tap the *Find* button to see how to play this game :)



Figure 56: The *Games* screen with *Find* game selected.

After tapping the *Find* button, a screen with listed AR markers, i.e. ingredient symbols is shown. You can scroll through the list of symbols (1) and select the ones you would like to play the *Find* game with (2). Once you select the first symbol, a button that enables you to select all the symbols pops up on the screen (3). If you tap on it, all symbols will be selected. After selecting the symbols, the next step would be to tap the *Start game* button (4).

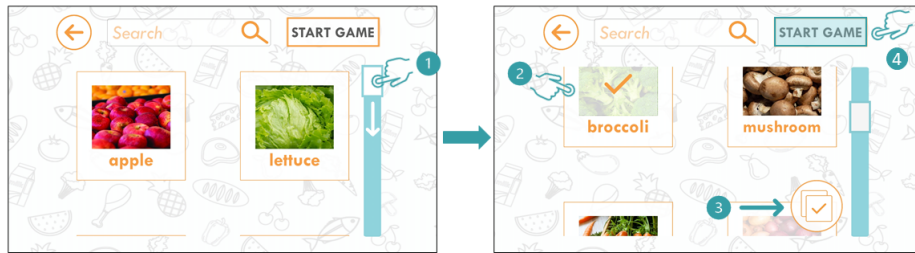


Figure 57: Steps how to select the ingredients for the *Find* game.

After you start the game, the name of the first ingredient you will need to find will be shown on the screen (on the upper part of the square through which you scan the AR marker).

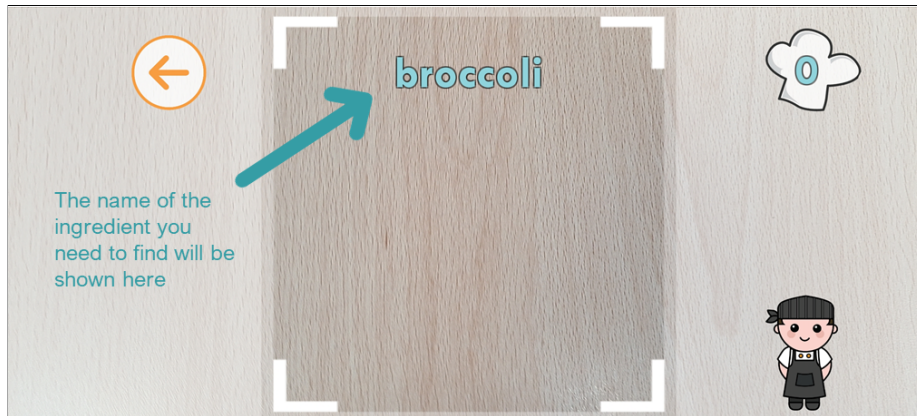


Figure 58: The start screen of the *Find* game.

After you find the marker representing the targeted ingredient, scan the marker and the 3D model of the ingredient will pop-up on the marker, you will hear a sound and see the symbol for correct answer, together with the animation with happy little chef. Also, your score which you can follow on the chef cap will increase by 1. If you scan the wrong ingredient marker, don't worry, the little chef will be sad just for a little while :)



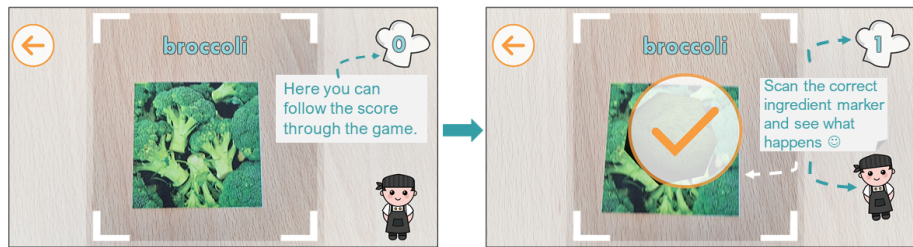


Figure 59: Screens explaining how the *Find* game works.

When you find all the specified ingredients, you will see the congratulatory screen with the *Start over* button. If you tap this button, you will be returned to the screen where you can specify the ingredients with which you want to play the *Find* game. At any point of the game, you can also tap the *Back* button to exit the game.



Figure 60: The "Congrats" screen at the end of the *Find* game.

Well done! You finished all three levels of *Getting started* chapter and learned how to use the main features of the *LeARn to Cook* application! :)

### 3 Frequently asked questions

#### 3.1 Categories

Categories are used to classify recipes, i.e., user can group recipes based on a common characteristic, weather that is a specific ingredient, an occasion - birthday cake, fancy dinner, or time of day - breakfast, lunch, dinner.

### 3.1.1 How can I view the list of available categories?

As depicted in Figure 61, categories can be viewed either by selecting option *Cookbook* where existing categories are displayed (see Figure 62), or by selecting the option *Editor* where you can, besides seeing the existing categories, create a new one, or delete an existing one.



Figure 61: Selecting the option *Cookbook* from the main menu

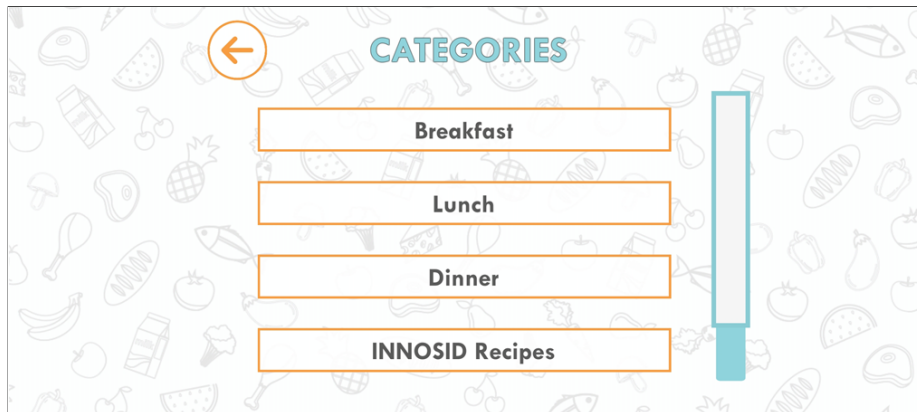


Figure 62: The existing categories within the *Cookbook*

### 3.1.2 How can I delete a category?

To delete a category, it must be empty, i.e., it must not contain any recipes. This means that you must either move all of the recipes belonging to this category to another one or delete every recipe belonging to this category (see the *How to modify a recipe?*). Once the category is empty follow the steps listed below:

1. Select the *Editor* option from the main menu.

2. Select the category you want to delete.
3. If the category is empty, a *Delete category* button will be on the screen, tap on it.

Keep in mind that after deleting the category it is no longer visible within the *Cookbook* and the *Editor*.

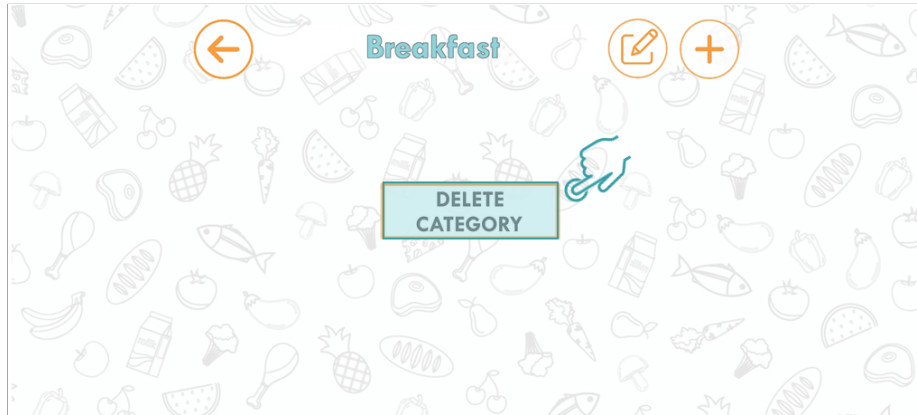


Figure 63: Delete category screen

### 3.1.3 How can I rename a category?

To rename a category follow the steps listed below:

1. Select the *Editor* option from the main menu and the list of categories will appear on the screen.
2. Select the category you want to change the name of. When a certain category is selected, a list of recipes belonging to this category is displayed. If the category is empty the "Delete category" button is displayed instead of the recipe list as depicted in Figure 63.
3. Select the *edit* button positioned on the right side of the category's name (Figure 64).
4. Enter a new name in the input field.
5. Select the *save* button positioned on the right side of the new name (Figure 64).

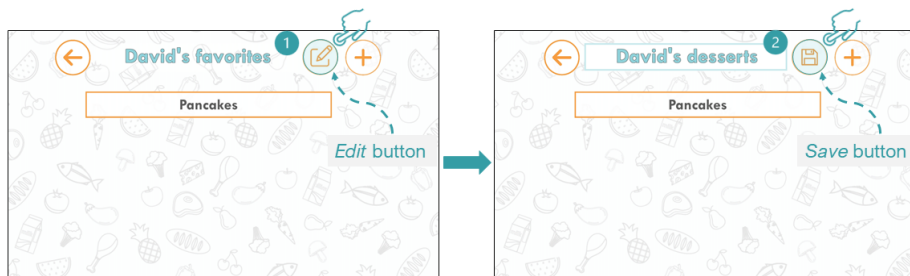


Figure 64: Delete category screen

## 3.2 Recipes

### 3.2.1 How can I delete a recipe?

A recipe can be deleted at any time, provided that it is not default recipe within the *INNOSID Recipes* category. To delete a recipe follow the steps listed below:

1. Select the *Editor* option from the main menu and the list of categories will appear on the screen.
2. Select the category of the recipe you want to delete from the list of categories and a list of recipes will appear on the screen.
3. Select the recipe you want to delete from the list of recipes. This will open up the *Edit recipe* screen.
4. Select the *delete* button positioned in the upper right corner of the screen. Once you have done that, a popup will appear asking you to confirm the deletion of the recipe as shown on Figure 66.
5. Select the *confirm* button.

Keep in mind that after deleting a recipe it will no longer be visible inside the *Cookbook* and the *Editor*.



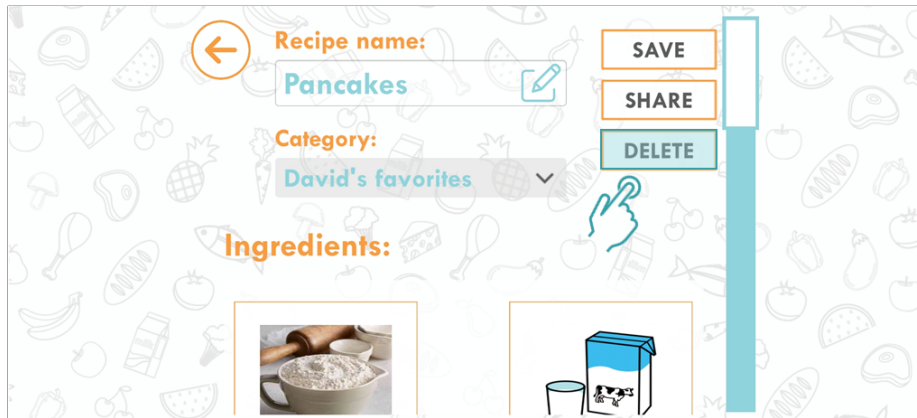


Figure 65: Delete recipe screen



Figure 66: Prompt about the recipe deletion

### 3.2.2 How to modify a recipe?

To modify a certain recipe follow the steps listed below:

1. Select the *Editor* option from the main menu.
2. Select the category of the recipe you want to edit from the list of categories and a list of recipes will appear on the screen.
3. Select the recipe you want to edit from the list of recipes (see Figure 67). This will open up the *Edit recipe* screen. While on this screen you can modify the recipe name, recipe category or recipe ingredients, tools and actions.

- To modify the recipe name simply select the input field under the *Recipe name* text.
  - To modify the recipe category, simply select a new category from the dropdown containing all of the existing categories (except the *INNOSID Recipes* category).
  - To edit the recipe existing ingredients, tools or actions:
    - 1) Select the ingredient/tool/action you want to modify by tapping on the symbol representation.
    - 2) Select the *edit* button that will appear in the lower right corner whenever there is a ingredient/tool/action selected (see Figure 68).
  - To delete existing ingredients/tools:
    - 1) Select the ingredient/tool you want to delete by tapping on the symbol representation.
    - 2) Select the *delete* button that will appear in the lower right corner whenever there is a ingredient/tool selected (see Figure 68).
  - To delete an action:
    - 1) You cannot delete a single action from a certain step. However, you can always delete the last step of the recipe by tapping the *minus* button that is positioned at the bottom of the screen.
4. Select the *save* button positioned at the upper right portion of the screen.

If you try to go back to the previous screen without saving the changes you have made to the recipe, a popup will appear (see Figure 69). Keep in mind that recipes within the *INNOSID recipes* category cannot be modified and can only be shared in the *Editor*.



Figure 67: Select the recipe for modifications



Figure 68: Edit recipe screen



Figure 69: Prompt about modified recipe

### 3.2.3 Why I can't modify existing INNOSID recipes?

Existing INNOSID recipes represent traditional dishes from each of the INNOSID partner countries. By the default, they can't be changed nor deleted. However, symbols used in those recipes can be further modified and reused in your custom recipes.

## 3.3 Games

Games are a part of the *LeARn to Cook* application that serves as a fun and innovative learning mechanism. By playing games, users can learn interesting facts about the common ingredients used in cooking, as well as how to distinguish different common ingredients.

### 3.3.1 I can not play games on my phone, what is wrong?

The *Cookbook* and the *Editor* options are available to all of the users that have installed the *LeARn to Cook* application on their devices. However, the games require AR services support and it is possible that your device does not meet these requirements. If this is the case, when you select one of the games, your device will prompt you to install the AR software, once you accept to do so, the Google Play store will open up where the AR software can be installed. If the installation of the the software is not possible you will see a message saying that your device does not support the AR service and you will not be able to play the games.

### 3.3.2 Why won't the game detect a marker I printed?

Difficulties while scanning a marker can occur due to a couple of different reasons:

- Camera quality may be insufficient for the application to instantly detect the marker.
- The marker that you are scanning is out of focus.
- The marker may be printed in low quality.
- The lightning conditions may be unfavourable.

We offer advice on how to properly scan a marker:

- At least 25% of the marker must be in the camera frame to be initially detected.
- The marker that you have printed out must be flat (it must not be wrinkled).
- The marker must be in clear view of the camera. They should not be partially obscured, viewed at a highly oblique angle, or viewed when the camera is moving too fast due to motion blur.
- Make sure you have enough light in the room where you are scanning the marker.
- Make sure that the marker is in focus while scanning.
- Try to move the device camera up and down above the marker slowly and steadily to detect the marker.

## 3.4 Settings

The application settings enable you to change the application language, turn on/off the application sounds, and change the application background and colours for improved accessibility.

### 3.4.1 How can I change the background?

To change the application background colour, follow the steps listed below:

1. Select the *settings* button positioned in the upper right corner of the main screen.
2. Tap on a colour out of the two options under the *Contrast* label.



Figure 70: Settings button

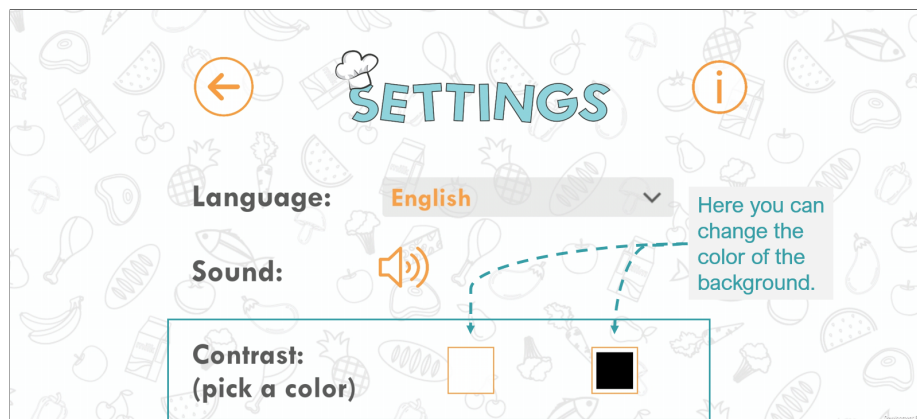


Figure 71: Available backgrounds for the application

### 3.4.2 How can I change the application language?

To change the application background colour, follow the steps listed below:

1. Select the *settings* button positioned in the upper right corner of the main screen.

2. Select one of the available languages from the drop-down menu (see Figure 72) and the application will automatically switch to that language.

Keep in mind that custom recipes will always be displayed in English.

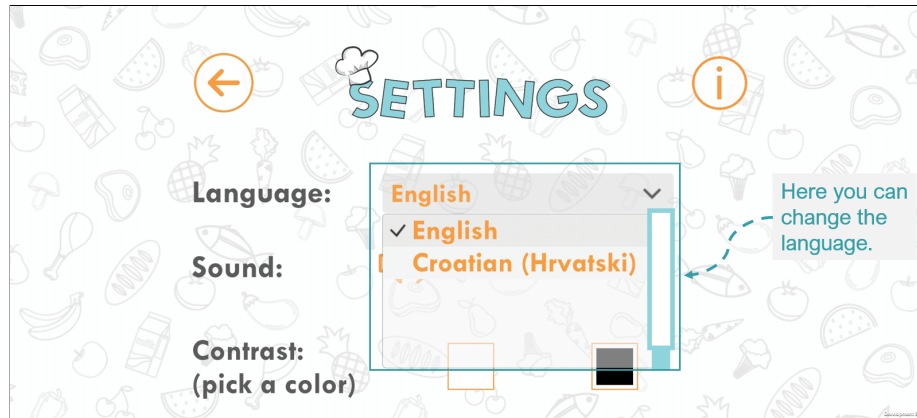


Figure 72: Application language selection

## 3.5 Technical support

### 3.5.1 What is augmented reality (AR)?

Augmented reality (AR) is an interactive experience of a real-world environment where the objects that reside in the real world are enhanced by computer-generated perceptual information. AR can be defined as a system that fulfills three basic features: a combination of real and virtual worlds, real-time interaction, and accurate 3D registration of virtual and real objects <sup>3</sup>.

Plainly speaking, the AR component in the *LeARn to Cook* application (*Games* part) includes observing virtual objects in real world through the device camera.

### 3.5.2 Do I have an AR-supported device?

The support for the AR can be verified by checking for the installation of Google Play Services for AR on user device, or alternatively the availability of a application on the Google Play store, if the application is not available, than the phone does not have the support for the AR. Here is the list of all devices that currently support the AR technology: <https://developers.google.com/ar/discover/supported-devices>

<sup>3</sup><https://enterpriseproject.com/article/2019/10/ar-augmented-reality-explained-plain-english>

### 3.5.3 What happens if I uninstall the app?

If the application LeARn to Cook is uninstalled, all custom made recipes, categories and symbols will be lost. Upon new installation, the application will only contain default recipes and symbols. The game part of the application will not change.

### 3.5.4 What is PDF?

PDF (Portable Document Format) is a file format developed to present documents, including text formatting and images, in a manner independent of application software, hardware, and operating systems <sup>4</sup>.

In the *LeARn to Cook* application a PDF file format is generated for you to print out markers for the AR component and share recipes.

### 3.5.5 Where can I find more support?

You can contact us at [innosid@fer.hr](mailto:innosid@fer.hr).

---

<sup>4</sup><https://tools.ietf.org/html/rfc8118>



## 4 About

The **LeARn to Cook** application was developed within the Erasmus+ project entitled Innovative Solutions for Improving Social Inclusion of People with Disabilities (hereinafter: INNOSID; project reference: 2019-1-HR01-KA203-060959, url: <http://sociallab.fer.hr/innosid>). The INNOSID consortium is comprised of the following institutions:

- University of Zagreb Faculty of Electrical Engineering and Computing (CROATIA)
- Universitat Politècnica de València (SPAIN)
- University of Debrecen (HUNGARY)
- IMT Atlantique Bretagne Pays de la Loire (FRANCE)
- University of Dubrovnik (CROATIA)
- Instituto Politecnico de Santarem (PORTUGAL)
- Croatian Down Syndrome Association (CROATIA).

Please take a moment to familiarize yourself with our privacy policy: <http://www.ict-aac.hr/index.php/en/privacy-policy>.

The application uses the following assets:

- Native Share for Android (<https://assetstore.unity.com/packages/tools/integration/native-share-for-android-ios-112731>)
- Simple SQL (<https://assetstore.unity.com/packages/tools/integration/native-share-for-android-ios-112731?q=simple%20sql>)
- Image Picker (<https://assetstore.unity.com/packages/tools/integration/imagepicker-22107>)
- Food pack - 3D Microgames Add-ons (<https://assetstore.unity.com/packages/3d/food-pack-3d-microgames-add-ons-163295>)
- FREE Casual Food Pack- Mobile/VR (<https://assetstore.unity.com/packages/3d/props/food/free-casual-food-pack-mobile-vr-85884>)
- Food and Grocery Items - Low Poly (<https://assetstore.unity.com/packages/3d/props/food/food-grocery-items-low-poly-75494>)
- Citrus Fruits Pack (<https://assetstore.unity.com/packages/3d/props/food/citrus-fruits-pack-10557>)
- Chef inspiration icon ([https://www.freepik.com/vectors/people">Peoplevectorcreatedbyfreepik-freepik.com](https://www.freepik.com/vectors/people))

- Chef hat icon (<https://www.freepik.com/vectors/kitchen>'>Kitchen vector created by freepik - www.freepik.com)



Co-funded by the  
Erasmus+ Programme  
of the European Union



The European Commission's support for the production of this publication does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



Development and maintenance by ICT-AAC Competence Network  
<http://www.ict-aac.hr>  
2020 ICT-AAC - all rights reserved