

# Requirements to UX

## Requirements gathering

### Delimit the topic

#### **Problematic**

According to ENSANUT, 19.1% of adolescents in Yucatan suffer from obesity.

#### **Users**

Teenagers between 12 and 19 years old

#### **Background**

Obesity in adolescents is not a physical or aesthetic problem, but a serious health problem, since it can lead to multiple problems such as diabetes, cardiovascular diseases and hypertension. According to ENSANUT data, 19.1% of adolescents in Yucatan between the ages of 12 and 19 are obese. Obesity in adolescents is not a physical problem, it is a serious health problem, as it can lead to multiple problems such as diabetes, cardiovascular disease and hypertension. Diabetes is considered one of the top 10 diseases causing death in the world.

Our main difference is the approach we give to the application since we will mainly focus on a teenage audience and we will make sure that our information is truthful, because some applications are not very reliable, such as some that say to fast for up to 14 hours and do intense daily exercises to lose weight in a week.

#### **Proposal**

- Improvement in eating habits
- Improved physical activity
- Prevent related diseases
- Handling of true information

### Prepare research instruments

We chose two instruments for the collection of information, which are the questionnaires and interviews. What we are looking for in the search for information is to obtain qualitative and quantitative data, in addition to, being adolescents, we thought it would be more convenient for them to be interviews and questionnaires, allowing us to have the types of

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data we were looking for with the questionnaires and more personal answers with the interviews.

## Questionnaire

The questionnaire was chosen in order to obtain quantitative information on the behavior/habits of adolescents. This research instrument allows us to know what the specific data of our users are. Due to the structure of the questionnaire, the analysis process will be easy for us. This does not contain any open questions, so we can have a clean analysis.

### Hábitos alimenticios y actividad física

\*Obligatorio

1. ¿Cuál es tu edad? \*

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2. ¿Cuál es tu peso? \*

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3. ¿Cuál es tu altura? \*

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4. ¿Sufres alguna discapacidad? \*

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5. ¿De cuántos integrantes está conformada tu familia? \*

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6. ¿Qué idiomas hablas? \*

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7. ¿Ciudad o municipio de origen? \*

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8. ¿Cuántas veces comes al día? \*

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9. De acuerdo a la siguiente imagen, ordena del 1 al 4 los grupos de alimentos que más consumas, siendo el 1 el grupo que más consumes y 4 el que menos consumes. \*

Ejemplo: Grasas y dulces (1) - Pan y Cereales (2) - Lácteos y carnes (3) - Frutas y verduras (4).



Marca solo un óvalo por fila.

	1	2	3	4
Grasas y dulces	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lácteos y carnes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frutas y verduras	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Panes y cereales	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. En tu tiempo libre, ¿Cuántas horas a la semana practicas deporte? \*

Marca solo un óvalo.

- ☐ Nada
- ☐ 1- 3 horas
- ☐ 4 - 6 horas
- ☐ 7 horas o más

11. ¿Cuántos vasos de agua consume al día? \*

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12. ¿Sabes el significado de los sellos en la comida? \*

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## Interview

The interview was chosen because it allows us to know specific attributes such as motivations and objectives. With the interview we obtained the personal position of each

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adolescent, both about her environment to develop, as well as the challenges to face her health problem.

1. ¿Cuentas con los medios necesarios en tus alrededores para realizar actividades físicas? (ejemplo gimnasio, parque y hogar) Si es así, ¿cuáles son?
2. ¿Cuáles son tus mayores desafíos referente a tu salud? ¿Cuáles son tus intereses referente a tu salud?
3. ¿Por qué no puede hoy lograr su objetivo de solucionar algún problema de salud? ¿Qué se lo impide o qué le falta?

## Outline of how you intend to perform the data analysis

The methods used for data collection were a questionnaire and an interview. These techniques provide us with data about user behavior as well as demographic data. We will use a quantitative analysis for all that data that we obtained in the questionnaire because it allows us to know what the specific data of our users are. For a deeper analysis we will use a small qualitative analysis for the interview part because we obtained more personal data from each user.

## Understand our user and his objectives

The total number of respondents was 29 adolescents with an age range between 10 and 19 years and 11 interviews were conducted.

## Present information about the user

The total number of respondents were adolescents with an age range between 10 and 19 years, although we were able to observe that the vast majority of adolescents answered question 9 in such a way that fats and sweets are consumed in lower priority, BMIs (weight/height<sup>2</sup>) of adolescents revolve around “healthy” to “overweight.”

In the same way, we observed that 54.2% of the respondents mention doing between 1 to 3 hours of exercise a week and 29.2% of these say they do not do any exercise during the week. While getting 1-3 hours of exercise a week alone is enough to maintain your weight, small amounts of physical activity help. The most important thing is that you incorporate regular physical activity into your lifestyle.

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### **The analysis of the interviews is shown below:**

¿Cuál es tu edad?

Los entrevistados abarcan de 10 años a 19 años, del cual el promedio gira alrededor de los 17 años

¿Cuál es tu peso?

El rango de los pesos abarcan de los 20 kg hasta los 90 kg. Del cual el peso promedio es de 59.70 kg

¿Cuál es tu altura?

El rango en las alturas gira alrededor de 1m hasta 1.75m. El promedio de las alturas es de 1.55 metros

¿Sufres alguna discapacidad?

El total de los participantes no tiene alguna discapacidad

¿De cuántos integrantes está conformada tu familia?

El rango de los integrantes en una familia es de 2 integrantes a 10 integrantes por familia, y el promedio de integrantes por familia es de 5 integrantes.

¿Qué idiomas hablas?

En el idioma aparecen 3 resultados: Español, Inglés y maya.

Siendo el idioma español hablado por todos, el inglés por 3 adolescentes y maya por una persona.

¿Ciudad o municipio de origen?

Los entrevistados son de la Península.

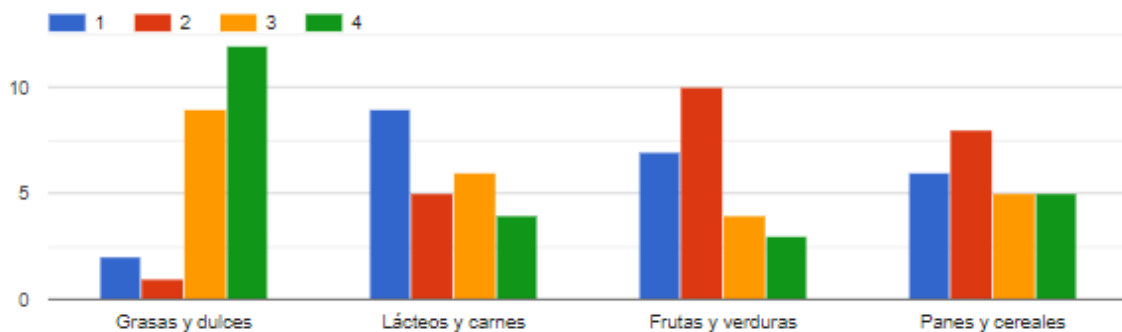
¿Cuántas veces comes al día?

El rango de comidas que hacen al día va de 2 a 4 comidas al día. La mayoría (moda) de los encuestados come 3 veces al día.

De acuerdo a la siguiente imagen, ordena del 1 al 4 los grupos de alimentos que más consumes, siendo el 1 el grupo que más consumes y 4 el que menos consumes.

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 Copiar



Se observa que tanto “grasas y dulces” como “lácteos y carnes” y “frutas y verduras” tienen un consenso parcial, y los encuestados en general los consideran con la misma prioridad; grasas y dulces siendo la de menor prioridad, lácteos y carnes la que más consumen, y frutas y verduras las que consumen en segundo lugar, pero vemos que panes y cereales varía según la persona.

En tu tiempo libre, ¿Cuántas horas a la semana practicas deporte?

El rango de las horas dedicadas al deporte por semana va de nada a más de 7 horas. Del cual el 54.2% de encuestados hace 1-3 horas de ejercicio a la semana y el 29.2% no hace algo durante toda la semana, el 12.5% mencionó hacer entre 4 a 6.

## Persona profile

- **Persona's biographic background**
  - **Geographic profile:**
    - City/metropolitan
  - **Demographic profile:**
    - Age
    - Family size
- **Specific goal/needs/attitudes**
  - Emotional goals
  - Motivations
  - Needs
  - Frustrations

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- **Specific Knowledge/Proficiency**
  - Language Proficiency
- **Sensory/Immersive Characteristics of use**
  - Mood/Feeling
  - Memorable
  - Pleasurable
- **Accessibility issues**
  - Physical abilities/disabilities
  - Mental abilities/disabilities

## Personas

### JUAN CHAN

#### PROFILE

Gender : Male  
Age : 17  
Weight : 60 kg  
Height : 1.55 m  
Location : Mérida  
Family size : 5 people  
Language : Spanish and english



#### SCENARIO

Juan, who is overweight, suffers from bullying at school because of his physical build, Jack's goal is to lose weight, but his biggest obstacle is his eating habits.

Juan interacts with the system, generating good eating habits and exercising based on the routines provided in the system.

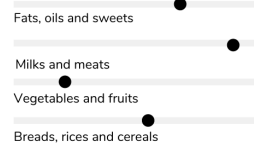
#### MOTIVATIONS AND FRUSTRATIONS

- His biggest challenge is eating
- His main interest is to lose weight
- His biggest obstacle is the bad habits of not eating in the best way

#### CONTEXT

Drinks 3-4 glasses of water per day  
Eats 3 times per day  
knows the food warnings  
Have not physical disabilities

#### COMMON FOOD



#### EXERCISE TIME PER WEEK

None

### MARIA UC

#### PROFILE

Gender : Female  
Age : 15  
Weight : 55Kg  
Height : 1.53m  
Location : Valladolid  
Family size : 4 people  
Languages : Spanish and Maya



#### SCENARIO

Maria has been very focused on school these past few months and feels that she has not dedicated much time to make exercise or the amount of food she eats, even though she is an ideal height and weight for her age.

Maria interacts with the system, obtaining preventive health information, fitness and food recipes, generating good habits based on the information obtained and her expectations.

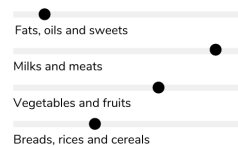
#### MOTIVATIONS AND FRUSTRATIONS

- + Having good health habits
- + Exercising more
- + Eating healthier
- Not having good health habits

#### CONTEXT

Drinks 7-8 glasses of water per day  
Eats 3 times per day  
Not knows the food warnings  
Have not physical disabilities

#### COMMON FOOD



#### EXERCISE TIME PER WEEK

1-3 hours per week

Present information about how the user accomplishes their tasks

## Scenarios

Scenario 1:

Juan , who is overweight , suffers from bullying at school because of his physical build , Jack's goal is to lose weight , but his biggest obstacle is his eating habits . Juan interacts with the system , generating good eating habits and exercising based on the routines provided in the system .

Scenario 2:

Maria has been very focused on school these past few months and feels that she has not dedicated much time to make exercise or the amount of food she eats , even though she is an ideal height and weight for her age. Maria interacts with the system , obtaining preventive health information , fitness and food recipes , generating good habits based on the information obtained and her expectations.

## Design Alternatives

Conceptualize the basic idea

Our main difference is the approach we give to the application since we will mainly focus on a teenage audience and we will make sure that our information is truthful, because some applications are not very reliable, such as some that say to fast for up to 14 hours and do intense daily exercises to lose weight in a week.

Define the functional and non-functional requirements

## Functional requirements

Id	Requirements
FR01	The system must allow user registration

<b>FR02</b>	The system will validate the user's credentials
<b>Setting</b>	
<b>FR03</b>	The user can change the language according to his preference
<b>FR04</b>	The user can modify the notifications that the user wants to receive
<b>Profile</b>	
<b>FR05</b>	The system will update the profile information
<b>FR06</b>	The system will store the profile data
<b>FR07</b>	The system will display profile
<b>Reminders</b>	
<b>FR08</b>	The system will display notifications about reminders
<b>FR09</b>	The system will display notifications about to resume routines
<b>FR10</b>	The system will display notifications about to continue using the app
<b>FR11</b>	The system will display notifications about upcoming sporting and cultural events in Yucatan
<b>FR12</b>	The system will display notifications about tips
<b>FR13</b>	The system will display notifications about motivational quotes
<b>Information</b>	
<b>FR14</b>	The system will display General Information related to upcoming sporting and cultural events in Yucatan
<b>FR15</b>	The system will display General Information related to good habits in the field
<b>FR16</b>	The system will display General Information related to



	nutritional and packaging
<b>FR17</b>	The system will display General Information related to fun facts
<b>Routines</b>	
<b>FR18</b>	The routines are arranged depending on the information in the user's profile
<b>FR19</b>	Routines can be scheduled
<b>Schedule and download</b>	
<b>FR20</b>	The system will allow the user to schedule and download routines
<b>FR21</b>	The system will allow the user to schedule and download events
<b>Food recipes</b>	
<b>FR22</b>	The system will be able to save different food recipes in favorites
<b>FR23</b>	The system can save different food recipes in folders/groups
<b>FR24</b>	The system will be able to show the added recipes
<b>FR25</b>	The system will keep track of the progress of the habits

## Non-functional requirements

<b>Id</b>	<b>Requirements</b>
<b>Portability</b>	
<b>NFR01</b>	The system can be used on bot platforms
<b>Roles</b>	

<b>Security</b>	
<b>NFR05</b>	The system will guarantee users the security of the information they share
<b>NFR06</b>	The system will encrypt passwords
<b>NFR07</b>	The users will have to verify with an captcha, when they want to login in
<b>NFR08</b>	The system will limit the login to 5 consecutive attempts and will be blocked until the account is verified
<b>NFR09</b>	The system will not allow multiple requests at the same time from the same address
<b>NFR10</b>	The user must confirm the account created, through an email sent to the email address associated with the account.
<b>Performance</b>	
<b>NFR11</b>	The system shall load in no more than 10 seconds.
<b>NFR12</b>	The system shall display recipes in no more than 3 seconds.
<b>NFR13</b>	The system shall display routines in no more than 3 seconds.
<b>NFR14</b>	The system shall add to the calendar in no more than 3 seconds the activity selected by the user.
<b>NFR15</b>	The system will remove from the calendar the activity selected by the user in no more than 3 seconds.
<b>Accessibility</b>	
<b>NFR16</b>	The system can display the information in alternative languages.
<b>Usability</b>	

<b>NFR17</b>	The system shall provide accurate information.
<b>NFR18</b>	The system will keep the progress of the habits updated.
<b>NFR19</b>	The system will not allow scheduling two events at the same time.
<b>Ease of use</b>	
<b>NFR20</b>	The user will be able to reach the required information at maximum of 5 clicks.
<b>NFR21</b>	The information will be easy to read
<b>NFR22</b>	The information will be easy to understand
<b>NFR23</b>	The colors used will not hurt the user's vision with prolonged use
<b>NFR24</b>	The information presented is easy to remember
<b>Usability</b>	
<b>24</b>	All system functions can be accessed in less than 3 actions/clicks.

## Traceability

### Traceability Matrix

<b>Routines</b>	
<b>FR18</b>	<p>The routines are arranged depending on the information in the user's profile</p> <ul style="list-style-type: none"> <li>• The system can display the information in alternative languages.</li> <li>• The system shall provide accurate information</li> </ul>

	<ul style="list-style-type: none"> <li>• The information presented is easy to remember</li> <li>• The information will be easy to understand</li> <li>• The information will be easy to read</li> <li>• The system shall display routines in no more than 3 seconds.</li> <li>• The system shall load in no more than 10 seconds.</li> </ul> <p>#####</p> <p># Eficiencia # Memorabilidad # Satisfacción</p>
<b>FR19</b>	<p>Routines can be scheduled</p> <ul style="list-style-type: none"> <li>• NFR14 - The system shall add to the calendar in no more than 3 seconds the activity selected by the user.</li> <li>• <b>NFR16 - The system can display the information in alternative languages</b></li> <li>• NFR19 - The system will not allow scheduling two events at the same time.</li> <li>• NFR 20 - The user will be able to reach the required information at maximum of 5 clicks</li> <li>• NFR21 - The information will be easy to read</li> <li>• NFR22 - The information will be easy to understand</li> <li>• <b>NFR23 - The colors used will not hurt the user's vision with prolonged use</b></li> <li>• NFR24 - The information presented is easy to remember</li> </ul> <p>#####</p> <p># Eficiencia # Memorabilidad # Satisfacción</p>
<b>Schedule and download</b>	
<b>FR20</b>	The system will allow the user to schedule and download routines
<b>FR21</b>	The system will allow the user to schedule and download events
<b>Food recipes</b>	

<b>FR22</b>	The system will be able to save different food recipes in favorites
<b>FR23</b>	The system can save different food recipes in folders/groups
<b>FR24</b>	The system will be able to show the added recipes
<b>FR25</b>	The system will keep track of the progress of the habits

Define “task”

## User requirements

1. The user will be able to log in to their profile.
2. The user will be able to create, visualize and update the data of his profile.
3. The user can choose the language (Spanish, English or Mayan) of the system.
4. The user will be able to select language changes and activate or deactivate notifications.
5. You may receive a notification from the system before the registered time to continue your exercise routine.
6. You will be able to observe the routines available according to your profile.
- ~~7. The user will be able to see their estimated progress up to that point according to the established routine.~~
  - a. The user will be able to see their estimated progress up to point according to the current routing daily
8. The user will receive information and recommendations on various topics related to eating habits and physical activities in Yucatan.
9. The user will be able to choose a new habit to develop from a list of predetermined habits, in addition to adding a new one as the case may be.
10. The user will be able to save the progress of his new habit day by day.

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11. The user will receive notifications to remind him to fulfill his new habit.
12. You will be able to see the progress of the new habit.
13. The user will receive information and recommendations regarding her current condition and situation.
14. The user will be able to schedule and download events, routines.

## Prototyping

Create layout guides

Produce a low fidelity prototyping

Produce a high fidelity prototyping