

FLY.AY

Fully Live Your Academic Years

DIPARTIMENTO DI INGEGNERIA INFORMATICA
AUTOMATICA E GESTIONALE ANTONIO RUBERTI



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Idea



The scope is to support students to organize their daily routine.

Our app allows to take track of all possible tasks within the day, so that it's able to create an adapting study planning that minimize the possibility of renouncing to something. FLY.AY gives to each user reassurance about the study progress along with metrics used to evaluate the actual situation, by visualizing the amount of work that still needs to be done.

So, FLY.AY manages every aspects of life, but is innovative because, unlike any other application, is able to create automatically a study planner. This is the unique feature that will lead users to download our app!

Furthermore, thanks to the writing of lists, it facilitates the possibility to report all useful reminders (for example: supply list, film to watch, book to read and so on) so that all possible aspects of life can be managed.

For grouping all events, we thought about 5 different categories: *STUDY*, *FREE TIME*, *WELLNESS*, *FESTIVITY* and *FINANCES*.

Each category is composed by many subcategories, that allows each user to better define an activity and to search properly every events.

Competitors analysis

Google Calendar
is an app that allows you
to remind every event
of your life.



- Synchronization of your phone contacts and phone calendar
- Possibility to display events in multiple way (day, 3 days, week, month visualization)
- Possibility for each synchronized account to see only category of events that you care
- Customization of multiple aspect of the calendar
- Possibility to use the service both from smartphone and from computer having a synchronized interaction



- Same event saved on two different accounts is repeated
- If some failures happen, data are lost, and they are difficult to retrieve
- Every synchronized account activity is divided into standard categories
- Distinction between *event* and *remainder* is not clear
- Beginning and ending of month is not highlighted
- The huge number of functionalities are not illustrated by tips, so users miss them



- Its design style is very elegant and unique
- Possibility to integrate different Google services to have a better interaction
- The calendar learns by your habits and preferences



- Share lists with your friends, family or colleagues
- Very easy to use and intuitive
- Versatile and adaptable for working and general life managing
- Possibility to use the service both from smartphone and from computer having a synchronized interaction



- Enumerating things to achieve does not allow to have an overall picture of the day
- Not all desktop functionalities are supported in the mobile version
- No possibility of changing walls order
- Does not allow creation of subtasks when the main one is too complex
- The right/left scrolling trigger out the settings even if the user is not searching for them and this type of scroll is not lefthanded friendly



- Extremely customizable through usage of photo, video, comments...
- Adapt for different typology of user with no particular technology skill

Trello
is a tool used to
manage list.
Here we are considering
only the free version.



- Organizes every kind of studying event with plenty of details
- Notification for every events and reminder for lessons' rooms
- Possibility to use the service both from smartphone and from computer having a synchronized interaction



- Not so much graphically developed
- Difficulty to change time previously indicated
- No possibility for changing colors
- No synchronization with calendar



- Keeps track of studying progress
- Highlight number of classes, tasks and exams signed within the app

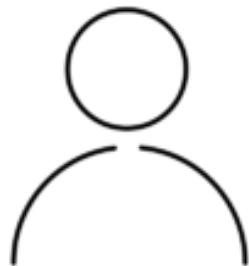
My Study Life
manages purely your academic life and keeps track of every possible deadline and university activity.

To summarize:

	<i>FLY.AY</i>	<i>Google Calendar</i>	<i>Trello</i>	<i>My Study Life</i>
<i>Free</i>	✓	✓	✓	✓
<i>Account</i>	✓	✓	✓	✓
<i>Managing events</i>	✓	✓	✗	✗
<i>Managing list</i>	✓	✗	✓	✗
<i>Study events</i>	✓	✓	✗	✓
<i>Study planner</i>	✓	✗	✗	✗
<i>Search</i>	✓	✓	✓	✓

User profile

Our app is referred to a specific class of user with the following characteristics:



<i>Age</i>	<i>18-30 years (mean: 22 years)</i>
<i>Gender</i>	♀ ♂
<i>Profession</i>	<i>university student</i>
<i>Education</i>	<i>High school to Bachelors degree</i>
<i>Location</i>	 A small globe icon representing global reach or international users.
<i>Technology</i>	<i>smartphone familiarity</i>
<i>Disabilities</i>	<i>no specific limitation</i>

Persona



Maria Ferranti
22-year-old, Rome

Maria has finished her bachelor degree in Physics and now she is starting the master degree. She is a bit shy and this led her to have few friends, but their bond is strong!

Maria spends a lot of time studying, because she always wants to do her best and this forced her to give up on tennis.

Maria loves her family and cares about their opinion, that's why she gets upset when they encourage her to go out more often.

Her studying motivation comes from the desire to help young minds to develop. In fact, her main goal is to become a university professor.

Scenario

It's a September Saturday morning and Maria is enjoying some relax before starting her first year of the Master degree.

She is a bit thoughtful because the previous night her friends proposed to take again some tennis lessons, so they will be able to play together. She is afraid about the fact that a new academic path is about to start, and she will attend many lessons. In fact, her study plan provides lots of exams in the first year that she wants to attend with the goal of obtaining good grades.

Although this year will be different; Maria promised herself that she will not give up on anything. She is determined to find a way to manage both the university tasks and personal life.



Persona



Domenico Bianchi
23-year-old, born in Tivoli,
lives in Bologna

Domenico moved to Bologna to study Mechanics Engineering and he should have finished the bachelor degree last year.

He is extremely extroverted, and he is fascinated by the nightlife of the new city.

His family is starting to press Domenico because they would like to see more results.

His studying motivation comes from the desire to work in Ferrari, but he realized that he is late in achieving life goals. In fact, Domenico often distracts himself using PlayStation.

Scenario

It's a Friday night and Domenico is going to a degree party of two of his university best friends. He is happy for them, but at the same time he realizes how much in late he is. In few weeks, he will have an exam and he really wants to succeed in it. But as always, his week schedule is full of appointments so he's not able to judge if the available time is enough for him to pass the exam.

His life is getting out of hand, because he has too much things to control and organize, even because living alone requires lots of responsibilities.

It's arrived the moment for him to change the direction of his life!

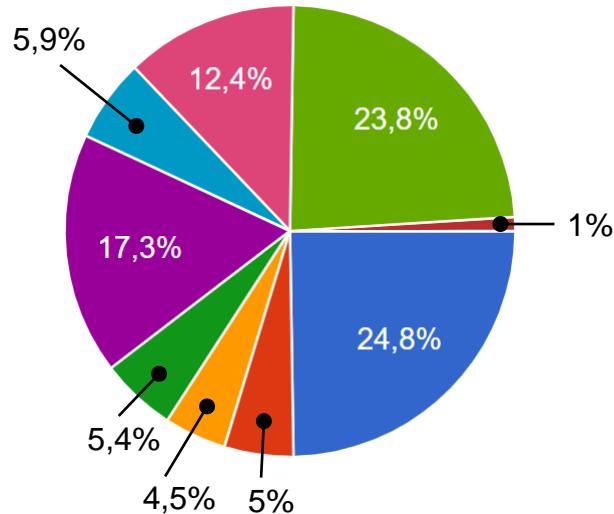




Questionnaire

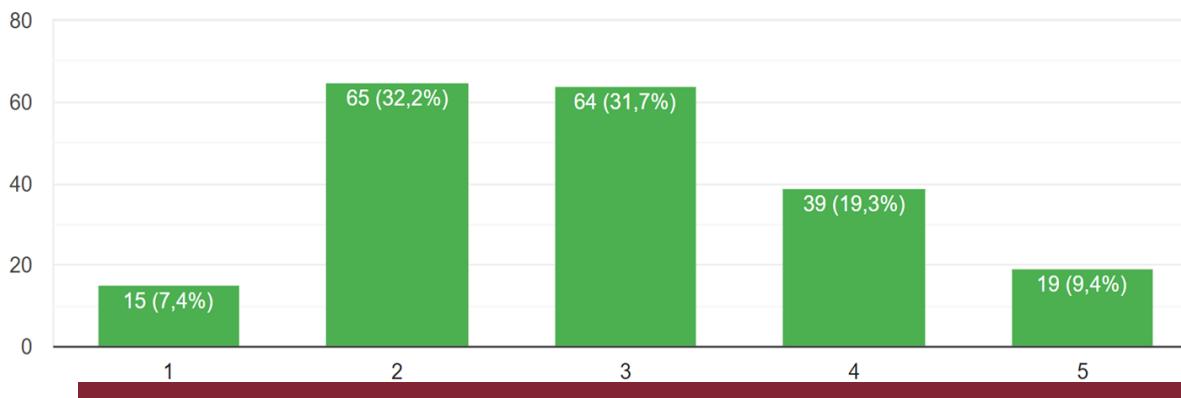
We tried to spread our survey to every kind of students as much as possible.
The reached faculties are listed here:

- Architecture
- Economics
- Jurisprudence
- Civil and Industrial Engineering
- Information Engineering, Computer Science and Statistics
- Literature and Philosophy
- Medicine and Odontology, Pharmacy, Phycology
- Mathematics, Physics and Natural Sciences
- Political Science, Sociology, Communication



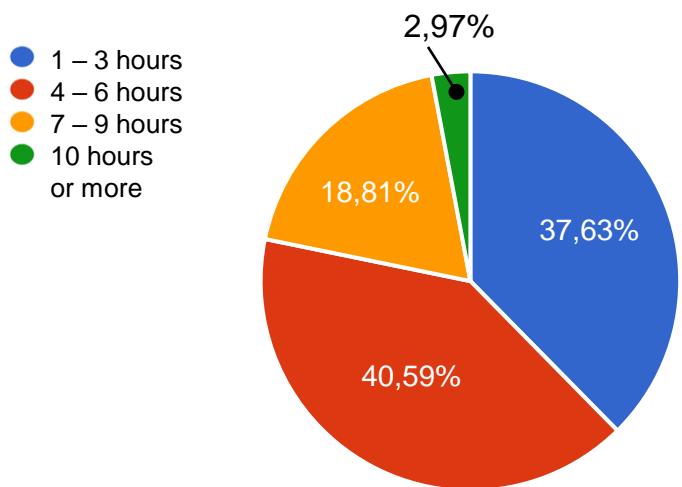
On average, other than studying, how busy is your day?

202 risposte

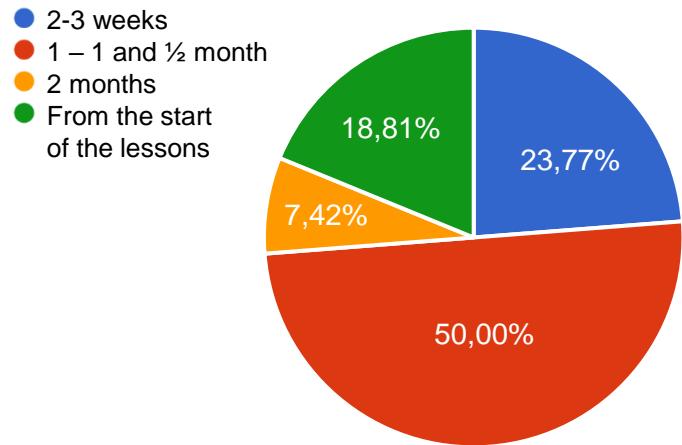


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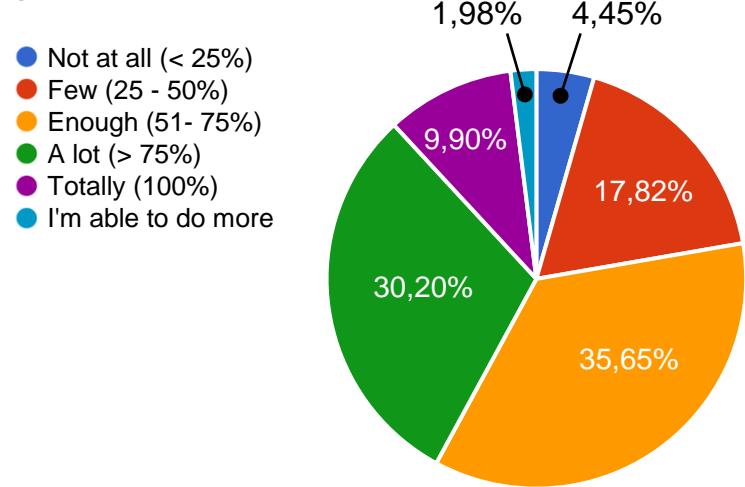
Generally, how many hours per day, do you employ studying (not considering lessons time)?



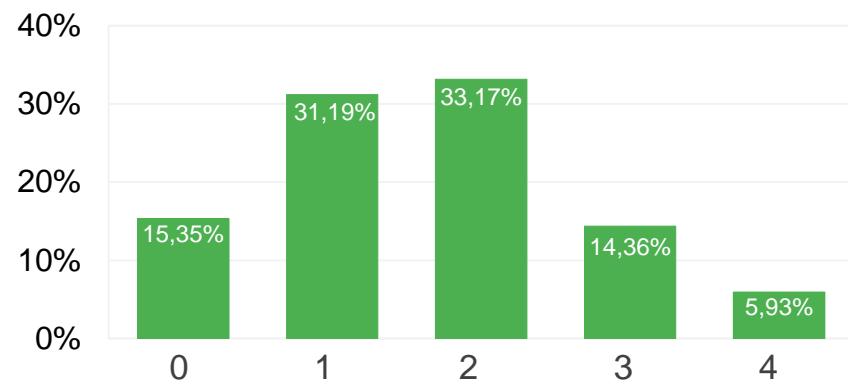
On average, how much time before do you start preparing an exam with respect to the exam date?



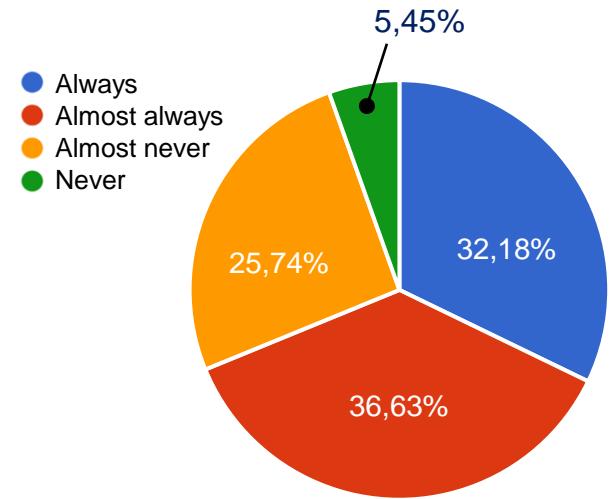
On average, how much can you live up to your expectations regarding the passing of exams during an exam session?



How often do you had to prepare an exam in less than 2 weeks?



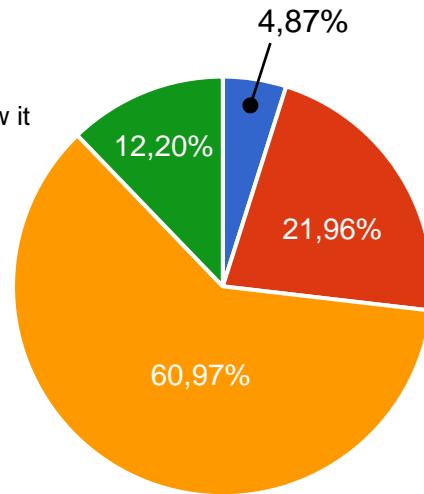
Do you organize your study?



If the answer is never, tell us why:

41 risposte

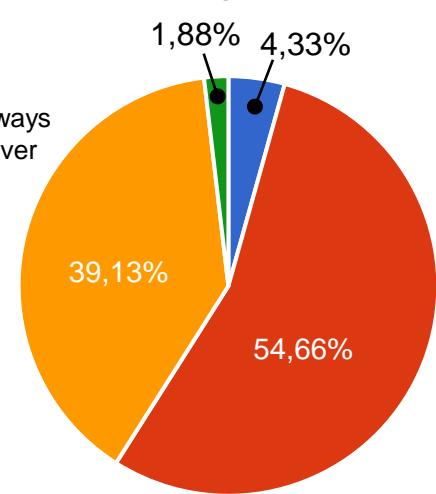
- I don't need to
- I would not follow it
- I program day by day
- For laziness



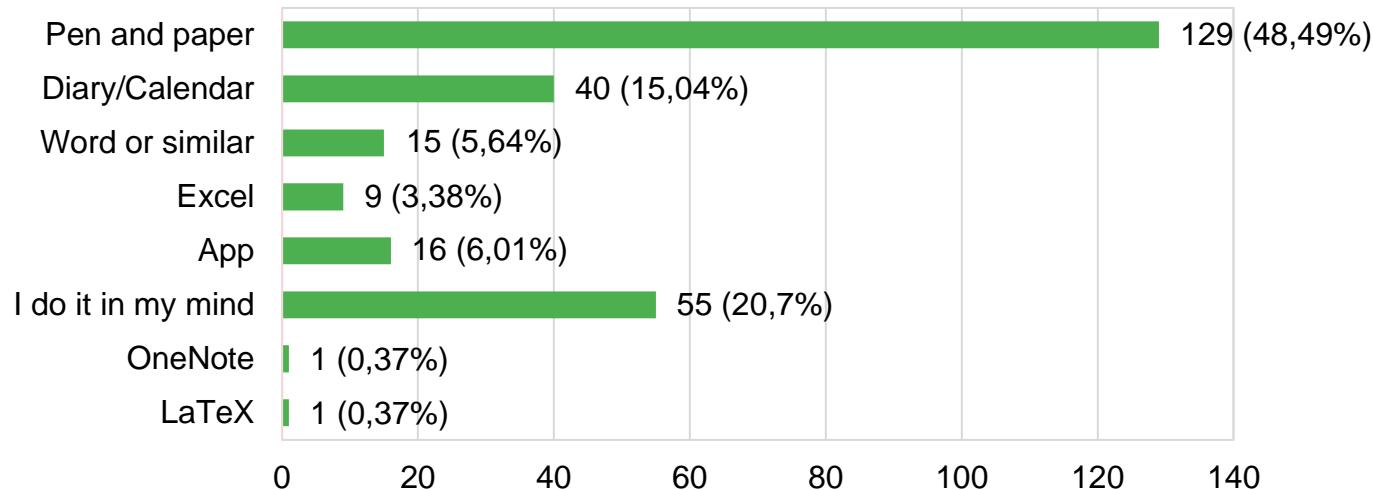
If you do, are you able to respect your own chosen timing?

161 risposte

- Always
- Almost always
- Almost never
- Never

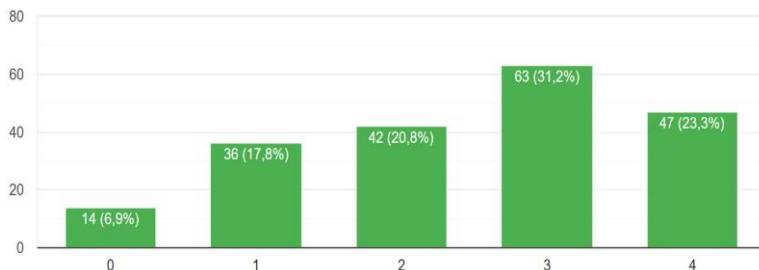


What do you use to organize your study?

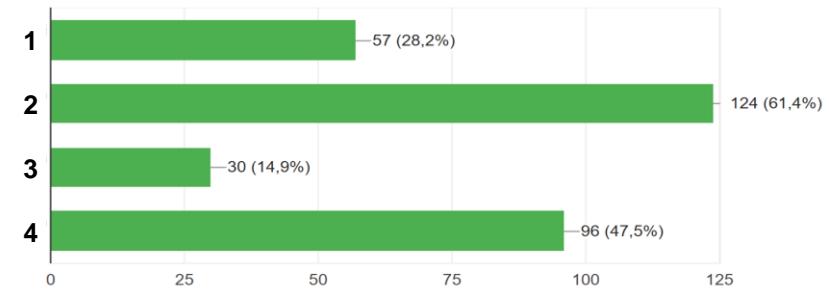


After analysing each studying behaviour, we wanted to understand how user would react to our application's idea.

How much will you consider useful an app that could keeps track of your event and consider them during the automatic creation of a study plan?

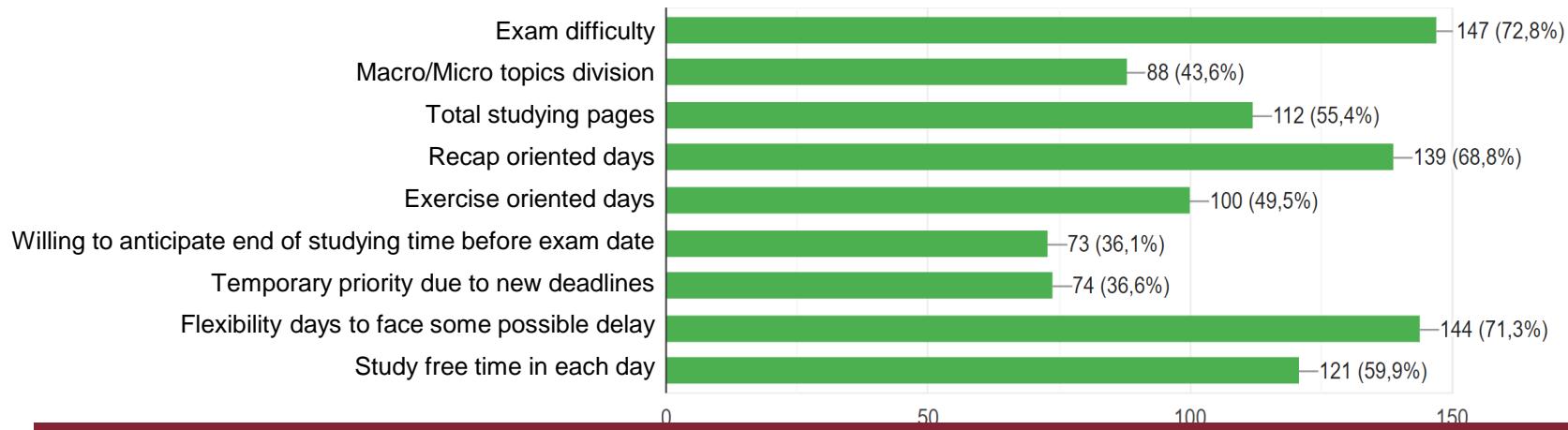


If an event overlaps to a study moment, what would you prefer to happen?



- 1: Bring forward or postpone to other free moment of the day
- 2: Re-organize unachieved goals to other days
- 3: Postpone the end of the study plan, if possible
- 4: Recover in no study moments

If there were an app able to automatically ideate your study plan, what do you think it should take into account?



Interview #1

- Laura, 23 years old
- born and lives in Naples
- Università degli Studi di Napoli Federico II, 1st year of MSc in Engineering Management
- Favourite activity colour: red

Advices:

- Integrate to the difficulty division for exam also the one for each topic
- Replacing *finances* category with another including activities different from study or free-time (as volunteering)
- She will expand *free-time* category including social, relax at home and family activities
- She would like to divide her study planning in different phases. The first used to get an idea of the subject, and the others to compute a detailed study
- The possibility to have control over the plan is fundamental to better personalize it
- She wants to have some motivational and inciting quotes
- The notification should of the right amount (not too much)
- While organizing lists, she prefers a timing order considering priority and deadlines



Laura is a very organized person and extremely curious and for this reason she will download our application but mainly to understand if her expectations can be reached. For the first times, to completely trust the application, she will compare the study planning of FLY.AY with her own.

If everything works well, she will start to use it because the idea behind the project fascinates her. Especially for the fact that we aim to integrate calendar, lists and study functionalities altogether.

Approval:

Laura considers our idea useful for many students that have difficulties into organizing their studying time. The possibility of dividing and re-calculate by pages/topic done is considered interesting along with the indication of flexibility days. She approved the creation of lists parallel to calendar events.





Interview #2

- Andrea, 20 years old
- born and lives in Rome
- Università degli Studi di Roma La Sapienza, 2nd year of BSc course in Mechanical Engineering
- Favourite activity colour: blue

Andrea is a very precise person who does everything with a certain method. He realizes that in order to succeed in his academic life the organization of study plan is a crucial step. So, since organizing the study could be difficult, he will use FLY.AY, checking the suggested plan and modifying it, if necessary. On his account, it is important to balance the available time with the amount of thing to study considering also some days to rest or to focus more. This is why, at the beginning, he will trust FLY.AY around 70% and, once convinced, he will use it to optimize the planning phase of its study.

Advices:

- Integrate a professor section, in which sign up how/when to contact them; this section could be linked with a particular subject
- Possibility to explicit when a break must be taken after tot hours of study
- Flexibility days should be added per week other than at the end of the study plan
- Three different kind of notifications: one in the morning to recap daily events; the second one in the afternoon to underline what still needs to be done; the last one in the evening to check events of the following day
- Possibility of two different types of ordering items in the list: one for checked items and one for unchecked
- Checked list's item should be grouped in the end of the list with transparency

Approval:

Andrea considers our idea very useful and wants to use it, also because he values the creation of lists inside this app. Furthermore, he would like to receive some motivational massages to alleviate the studying days. According to his needs, he will use *finances* category to sign some jobs and, since he like to have control, every solution when some study goals are not reached are considered useful.



Interview #3

- David, 22 years old
- born in Siena and lives in Pisa
- Università degli Studi di Pisa
4th year of
BSc course in Mathematics
- Favourite activity colour: light blue

Advices:

- Integrate the possibility of not-disturb-functionality for *festivity* events
- *Free-time* category should be associated to green, because it's associated to hope relax and a walk in a park
- Give to the user the chance to move a subcategory to a main category
- The order of the unchecked list's item should be chosen by the user, for example if there exists a sequence checked and unchecked items should be left together
- Indicate some topics that are less important and that can be sacrificed if there is not so much time left
- Highlighting the time interval between an exam dates and the others so that its easier to establish priorities and a plan
- Send more notifications if there is a delay into following the plan and less (even once a week) if everything is going as expected; this because notification may also distract

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45 minutes

David likes to have control over everything that he does. Considering his study method, he uses to believe that this kind of applications is not so useful. Due to his type of academic subjects, he has to studies day by day following the lessons and this leads to the possibility to keep everything in mind. Although, if lots of user would benefit from FLY.AY, he will download it as well out of curiosity.

When he organizes his study, sometimes he is forced to prioritize a subject over others especially on the proximity of a midterm. That's why every other activities, including house managing, are postponed.

Approval:

David considers our idea useful especially for the *finances* category. In fact, since he is an off-campus student, the possibility to remind every sort of payments will ease his life. Due to this life style, he will exploit a lot the use and the creation of list's models, in particular when he has to move back home or go to the supermarket.



Interview #4



Advices:

- Integrate sleep management, adding statistics into profile page to monitor the rest activity
- Integrate sorting lists by popularity and reviews where it's possible (movies, books, recipes, ...)
- Add study statistics and exam simulation tool into profile page
- She wants to have funny phrases to stimulate her study
- Integrate list's item suggestions based on personal user preferences or internet most rated items
- She wants to have notifications more frequently, if she is late with study program
- Add creation of list models with default items
- Integrate the possibility to define a priority number between macro categories, in order to better manage the overlap of multiple events
- Integrate piggy bank service

Margherita is a very busy person and between study, sport, work and social life, she has a lot of events to manage during her day. She already uses a Calendar app to keep track of her events, but she would download FLY.AY because she is curious of the services provided of the app and she considers it more complete for her lifestyle. She would trust the study program created by our app, considering the service provided by FLY.AY very interesting, but at the same time, she wonders if it's able to manage in the best possible way all problems that could slow down the prearranged study goals.

Approval:

Margherita considers our idea very interesting for the student life management. In particular, she considers useful to have a single application to control university and private commitments, in order to have a more complete overview of her day.



Card sorting

Mapping category - subcategories

3 critical choices:

- including the *sport* inside the *free time* category (60%) or inside the *wellness* one (40%): this because someone perceive it as a hobby to be fulfilled in the work off periods, while others identify it as a moment of self care;
- assigning the birthday inside *festivity* (60%) or *free time* (30%): festivity was mainly associated with vacations and so a birthday event could be seen also as a social time to spend with friends;
- placement of travel: 50% of the interviewer putted it inside *free-time*, but the remaining were considering it as a moment of relax and *festivity*.

	STUDY	WELLNESS	FREE-TIME	FINANCES	FESTIVITY	unsorted
Exam	100%					
Lessons	100%					
Study group	100%					
Study time	100%					
Intership	80%				20%	
Body care		100%				
Med-appointment		90%			10%	
Medicines		80%			20%	
Films and TV series			100%			
Sportive events			100%			
Theatre			90%	10%		
Books	20%		80%			
Friends or Family		20%	80%			
Sport		40%	60%			
Travels		20%	50%	20%	10%	
Outflow				100%		
Revenue				100%		
Holidays		10%			90%	
Long weekend		10%			90%	
Birthday			30%	10%	60%	

Study planner order items

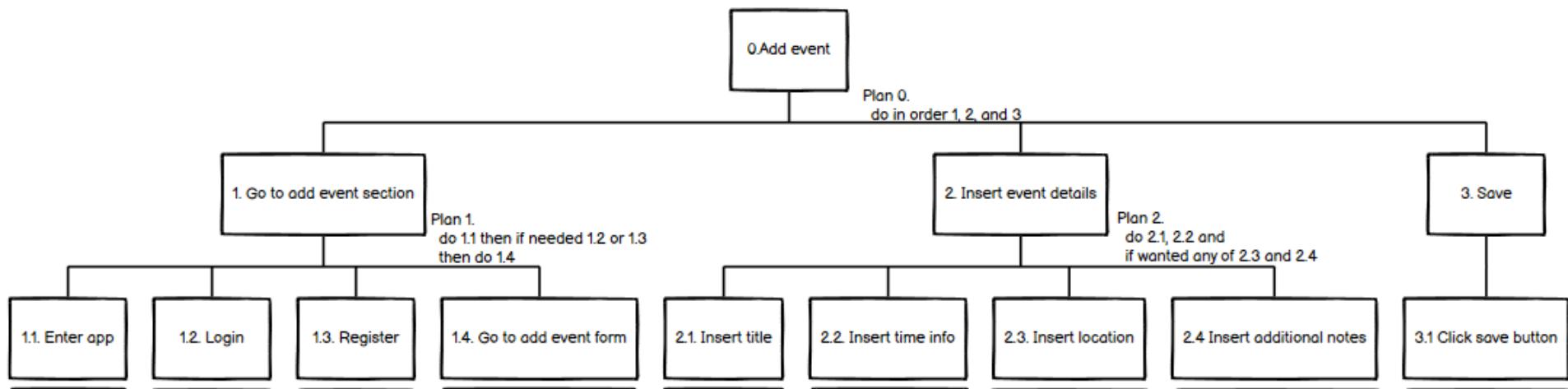
To verify that the items chosen for the study planner are suitable to fully represent its features, we asked the user to sort the items by considering what they perceived as important and correlated:

Category	Contains	Cards	Freq	Avg pos
STUDY PLANNER	20 different cards	Date of ending study	30	1.3
		Days in which study	30	2.4
		Period of day in which study	30	3.2
		Exam difficulty	30	4.8
		Maximum hours to study per day	30	5.6
		Safe days (if there are some delay)	30	6.1
		Minimum hours to study per day	30	6.2
		Organization study by pages	30	8.7
		Organization study by topics	30	11.0
		Total number of pages	30	11.3
		Maximum pages per day	30	11.8
		Date for starting recap	30	12.7
		Minimum pages per day	30	13.2
		Main topics list	30	13.3
		Difficulty level for each topic	30	14.5
		Sub topics list	30	14.7
		Day of recap after finishing main	30	16.3
		Precence of exercises options	30	16.9
		Day of recap after finishing sub	30	17.6
		Presence of project options	30	18.4

Add event

The user adds a new event in his agenda in order to do not forget it. To complete the information of his future appointment, he inserts the title of the event, the time, the location in which it will be and he optionally notes down other details.

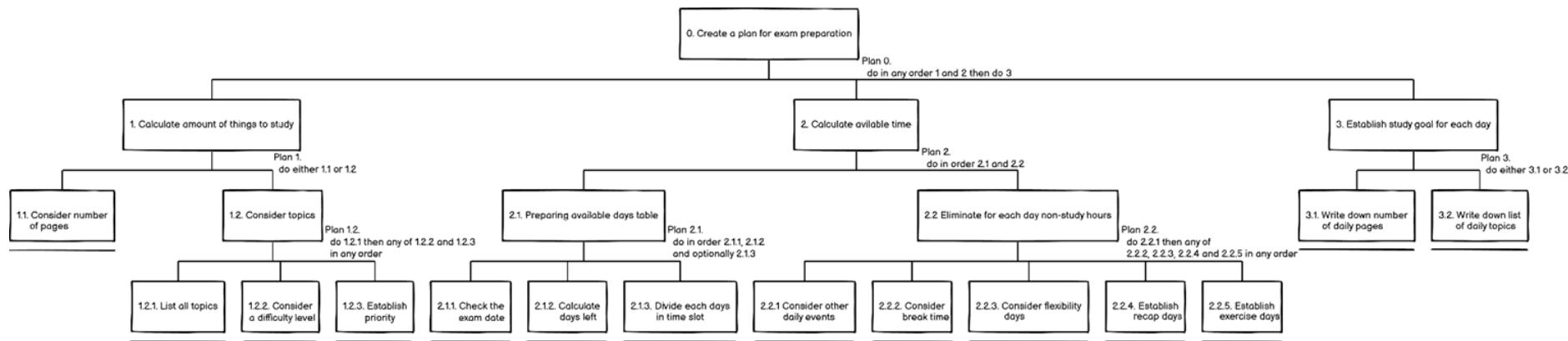
Hierarchical Task Analysis



Add study event

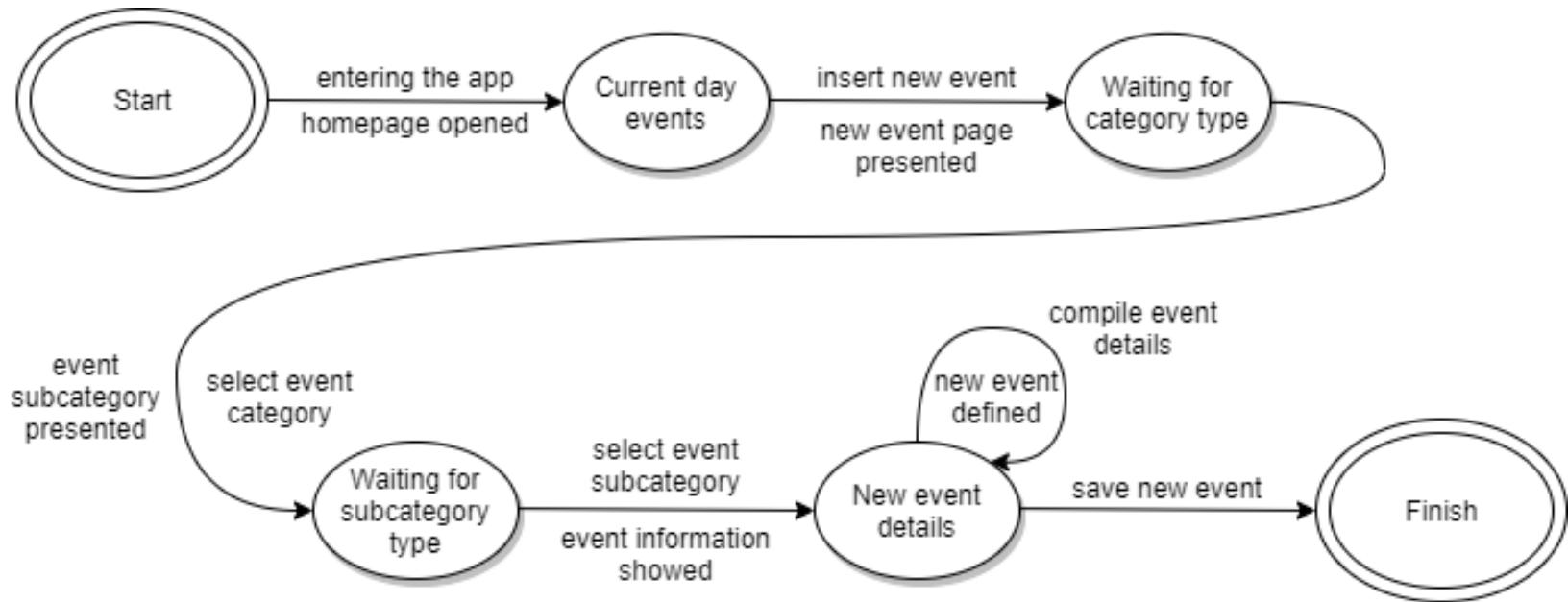
Moreover, the student creates a plan for preparing an exam, compiling his plan of study step by step. He starts by computing the amount of things to study he has, and decides if proceeds by pages or topics. Then, he computes the available time and the exam date for which he wants to complete its knowledge. Furthermore, he establishes the daily goals that he wants to achieve.

Hierarchical Task Analysis



Add event

State Transition Networks



Prototype

Add an event to not forget your daily appointments.

Action 1: press text field input and digit the name of the event “*HCI exam*”

Response 1: each digit is displayed as typed, flashing cursor moves to next position

Action 2: select the “*study*” category

Response 2: the system shows the selected category and the correlated subcategories

Action 3: select the “*exam*” subcategories

Response 3: the system shows the selected subcategory

Action 4: select the date on 21/01/2021

Response 4: the system shows the selected date

Action 5/6: select the start/end time on 10:00 AM/ 11:00 AM

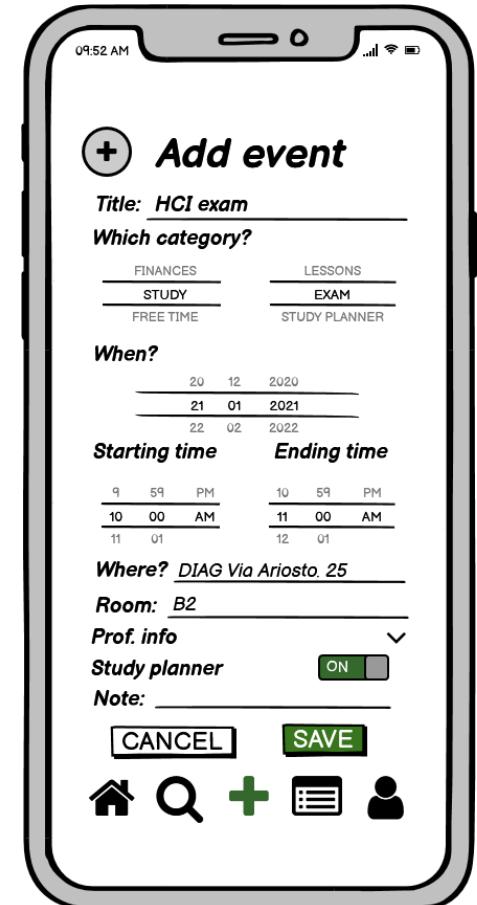
Response 5/6: the system shows the selected time

Action 7/8: press text field input and digit the place of the event “*DIAG*”/ “*B2*”

Response 7/8: each digit is displayed as typed, flashing cursor moves to next position

Action 9: press the “*save*” button

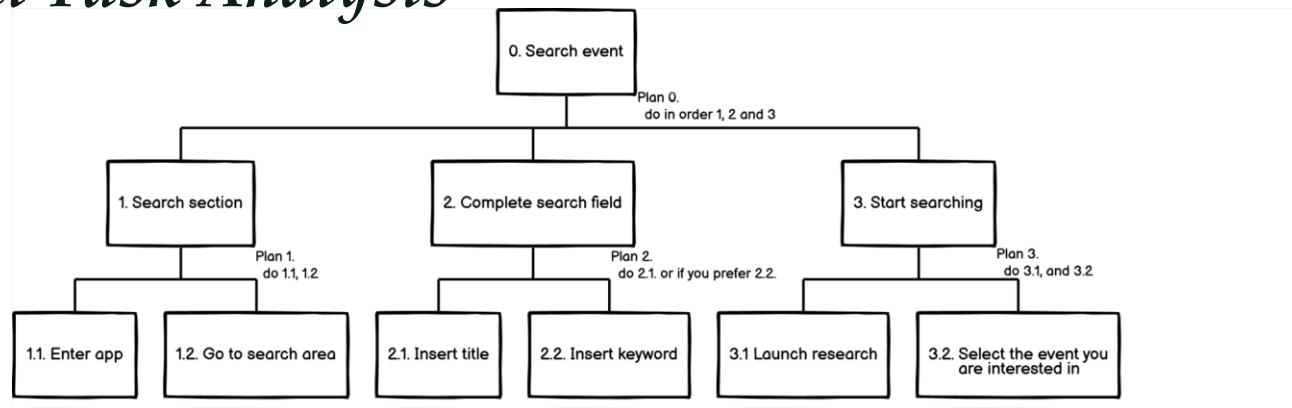
Response 9: details are collected by the system and the new event is displayed



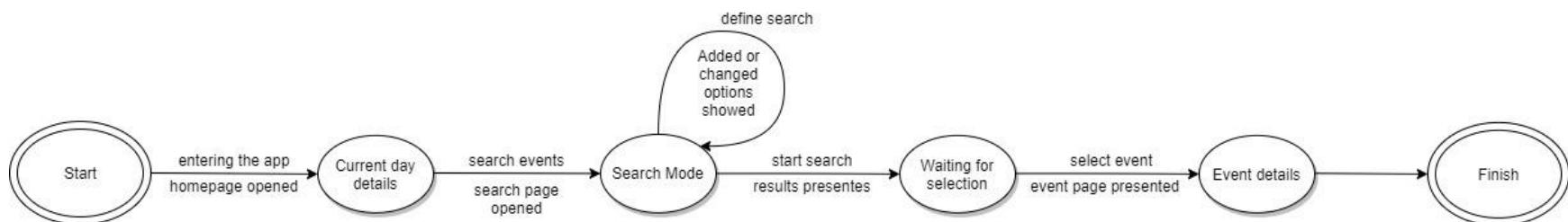
Search event

The user searches the event he needs; events that may be for remembering when something will happen, as well as something of the past. He inserts key element as filter for doing the research and, when the results are showed, he selects the event he is interested in.

Hierarchical Task Analysis



State Transition Networks



Prototype

Search the event “*HCI lesson*”, to see the event details.

Action 1: press text field input and digit the name of the event “*HCI lesson*”

Response 1: each digit is displayed as typed, flashing cursor moves to next position

Action 2: select the “*study*” category

Response 2: the system shows the selected category

Action 3: press text field input and digit the place of the event “*SPV*”

Response 3: each digit is displayed as typed, flashing cursor moves to next position

Action 4: press the “*search*” button

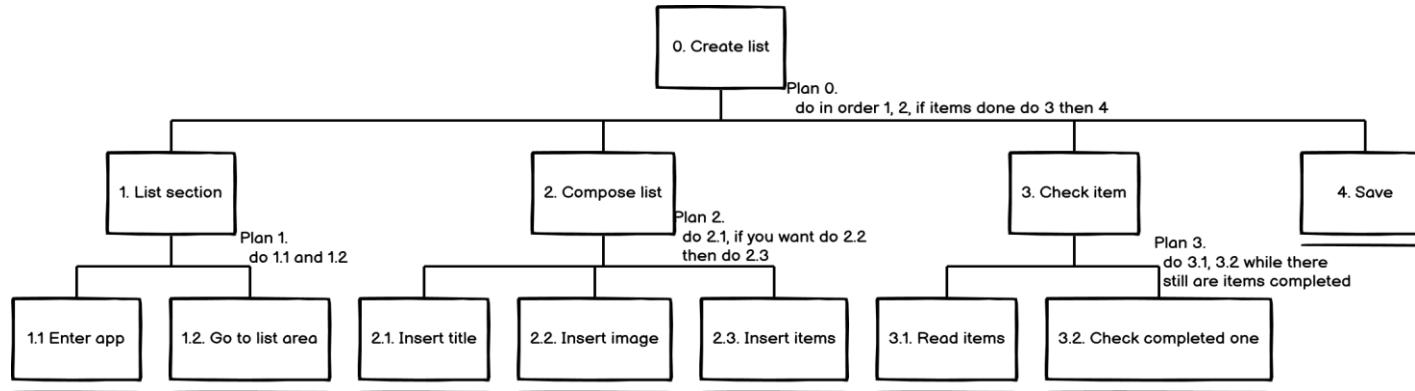
Response 4: details are collected by the system and results are displayed



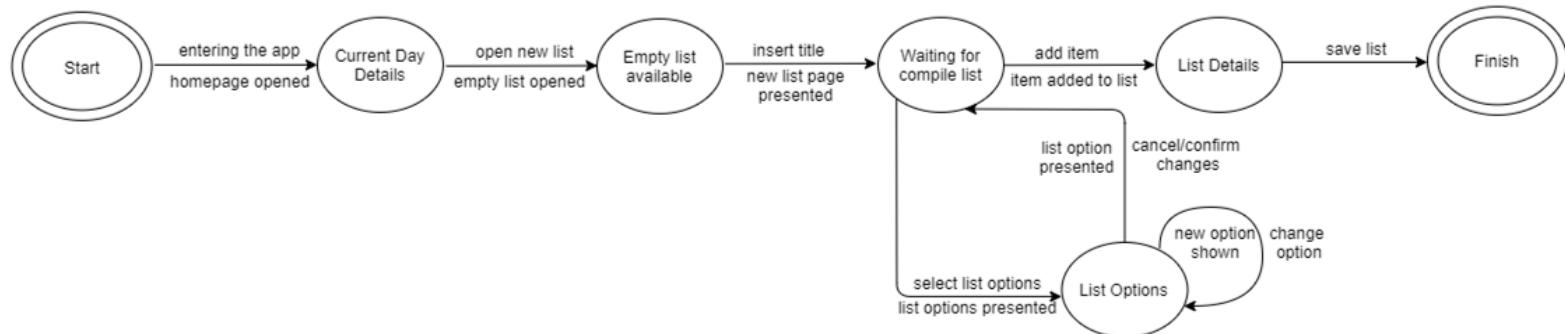
Creating list

The user can set up a new list in which he writes a sequence of things that he wants to remember. He can also check the items when he made them, in this way he has a clear view of the situation.

Hierarchical Task Analysis



State Transition Networks



Prototype

Create a list to not forget the films that you want to see and that you saw.

Action 1: press text field input for the title and digit “*Film*”

Response 1: each digit is displayed as typed, flashing cursor moves to next position

Action 2: press input for inserting an item and digit the to be seen film “*Inception*”

Response 2: each digit is displayed as typed, flashing cursor moves to next position

Action 3: press the button to add the film to the list

Response 3: the new item will be displayed by the system

Action 4: press text field input and digit the already seen film “*The circle*”

Response 4: each digit is displayed as typed, flashing cursor moves to next position

Action 5: press the button to add the film to the list

Response 5: the new item will be displayed by the system

Action 6: select checkbox to mark that the film “*The circle*” has been seen

Response 6: the system shows the selected film as seen

Action 7: press the alphabetic order icon to organize the list

Response 7: the system shows the list ordered

Action 8: exit this new created list

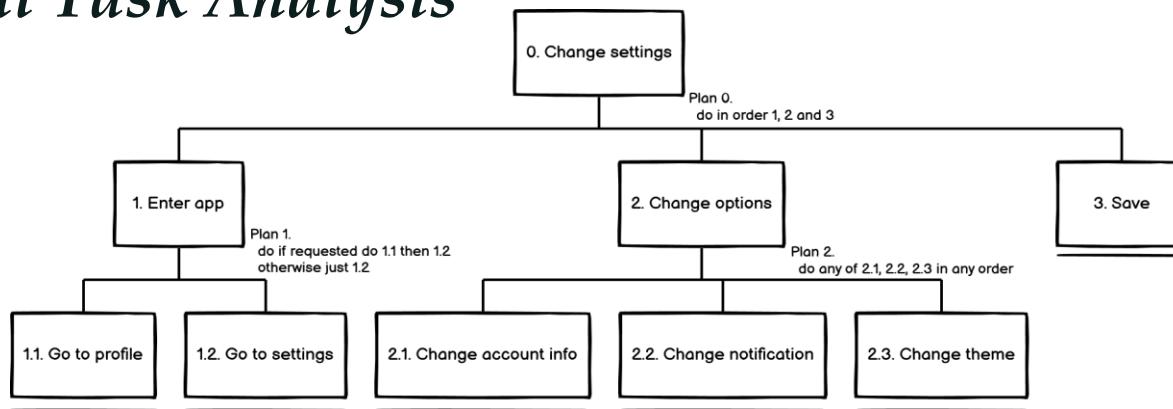
Response 8: the system will ask to confirm the creation



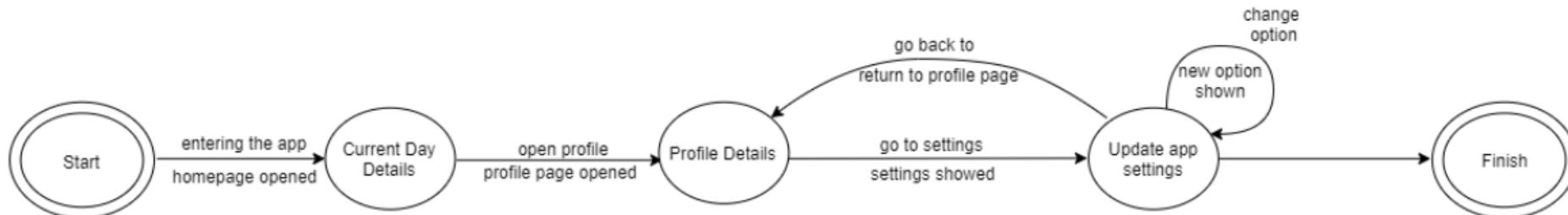
Settings managing

The user must go to the profile where he can see all his information and from there accessing the settings. Here he can manage his options, for example, the changing of account information and other aspects related to the application.

Hierarchical Task Analysis



State Transition Networks



Prototype

Visit your profile to see your categories, your archive and change your settings.

Action 1: press options menu icon

Response 1: the system shows a menu

Action 2: press settings icon

Response 2: the system shows settings page

Action 3: press text field input and digit your new password

Response 3: each digit is displayed encrypted, flashing cursor moves to next position

Action 4: press eye icon to check your digit

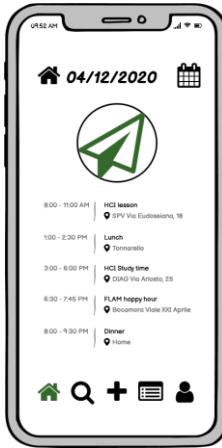
Response 4: each digit is displayed as typed, flashing cursor moves to next position

Action 5: press the back button

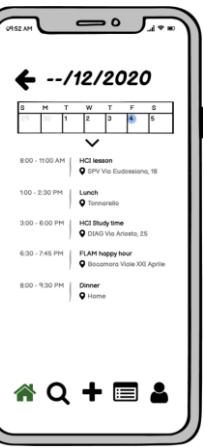
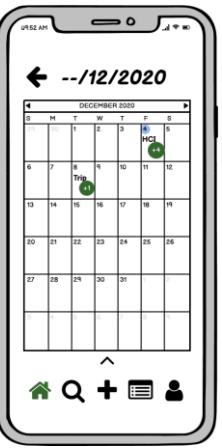
Response 5: the system shows the profile



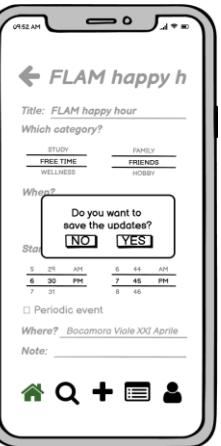
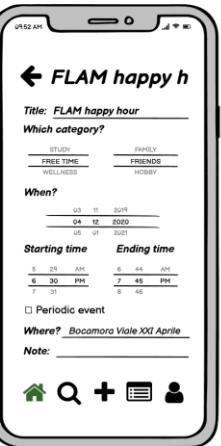
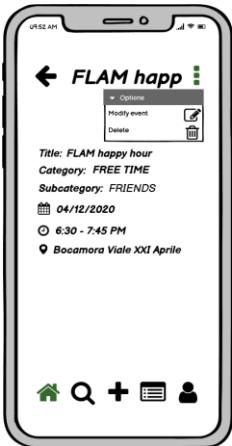
Other system prototypes



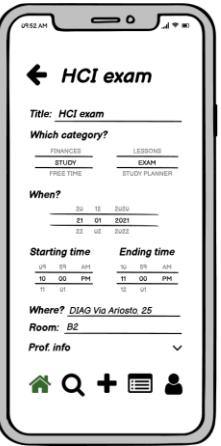
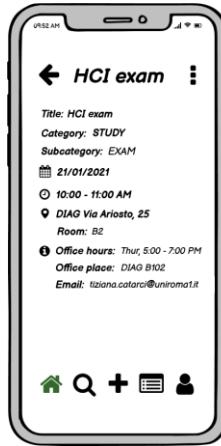
Sign in and sign up pages



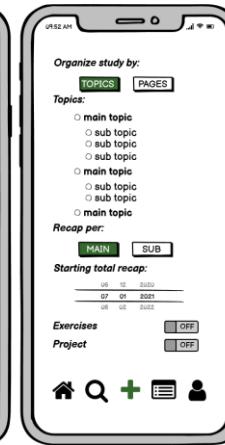
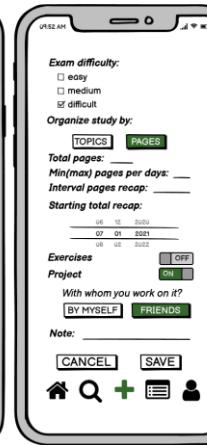
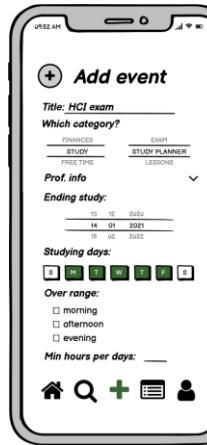
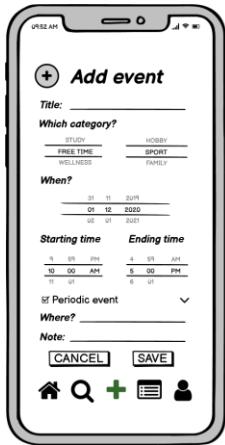
Display calendar in three different ways



Display details of an event, modify the event

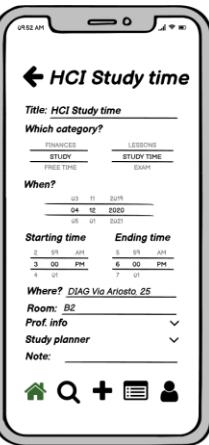
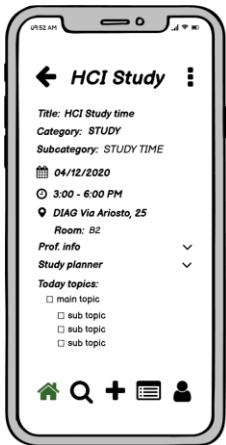


Display details of a study event and edit of the event



Add a periodic event

Create a study planner



Display details of a study planner event, click to modify

Display all lists

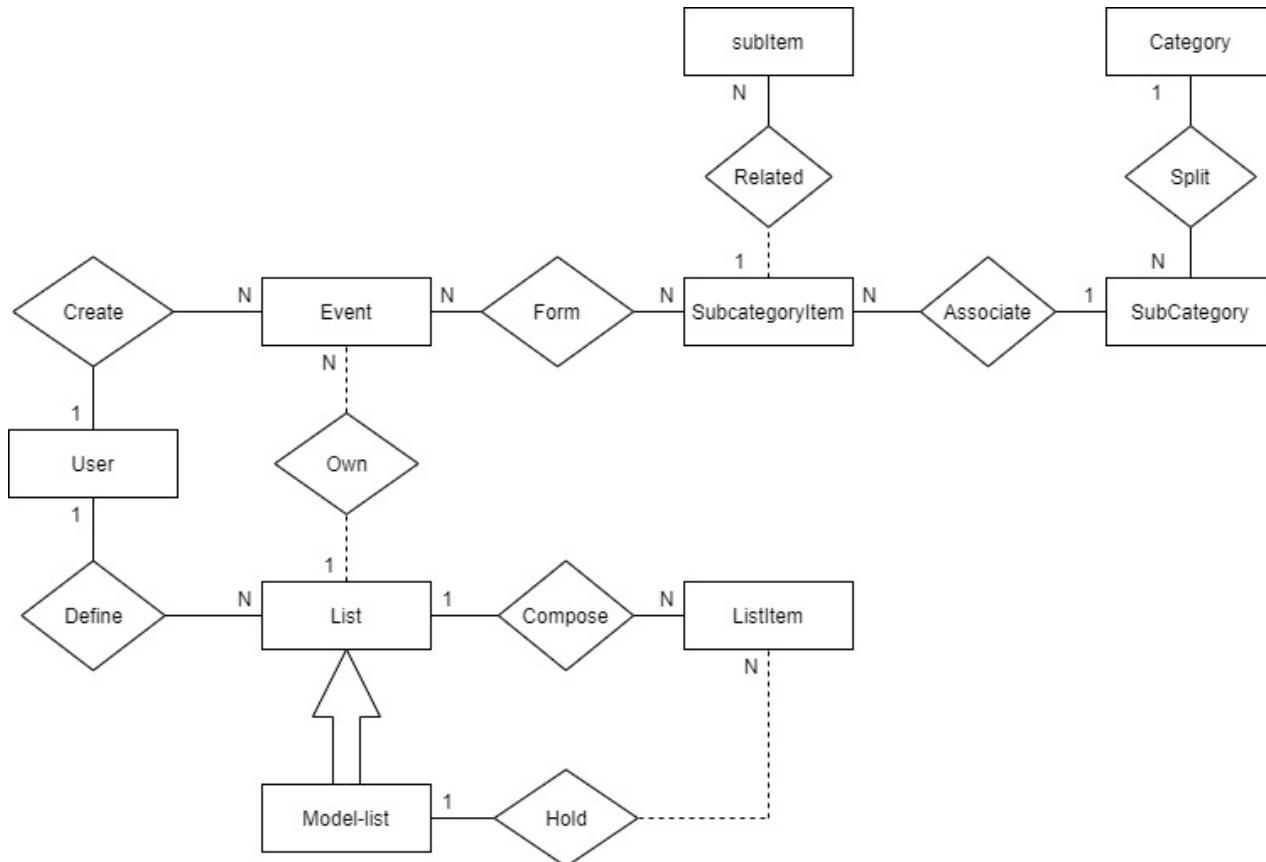
Ask to the user if he wants to upload a list template

Ask to the user if he is sure to delete the selected list

Display details of a list and modify the content

ENTITY-RELATIONSHIP SCHEMA

It is used to represent the domain knowledge that every user has to posses in order to execute the task. This knowledge is related with the HTA, but it is not represented with the same formalism. The entity relationship techniques allows to focus on objects, actions and their relationship.



EXPERT BASED EVALUATION

Cognitive Walkthrough

It is related with the idea of discover cognitive efforts of the user and how well the system supports the user executing the actions. The idea of method provides the expert walks through the system in order to understand if the actions provided by the system well support the user in doing such task.

The analysis is guided by 4 predefined questions:

- *is the effect of the action the same as the user's goal at that point?*
- *will users see that the action is available?*
- *once users have found the correct action, will they know it is the one they need?*
- *after the action is taken, will users understand the feedback they get?*

The expert uses this question to analyze the system and according to her correction, we changed adequately our prototypes.

Heuristic Evaluation

Frame	Heuristic violated	Severity	Description / Comment
Add event	Aesthetic and minimalist design	3	The pages are too cluttered with a lack of hierarchy. Consider content hierarchy
Search	Recognition rather than recall	2	Help users in understanding which kind of information can be inserted in “Which event” field
Add event	Error prevention	3	Highlight the required fields
Film	Recognition rather than recall	3	Provide some contextual support. Icons used are quite common but are often used associated with different action. Consider to organize the interaction in steps in order to guide the user in the process.

based on the Jakob Nielsen's 10 Usability Heuristics:

1. *Visibility of system status*
2. *Match between the system and the real world*
3. *User control and freedom*
4. *Consistency and standards*
5. *Error prevention*
6. *Recognition rather than recall*
7. *Flexibility and efficiency of use*
8. *Aesthetic and minimalist design*
9. *Help users recognize, diagnose and recover from errors*
10. *Help and documentation*

0 = I don't agree that this is a usability problem at all
1 = Cosmetic problem only
2 = Minor usability problem
3 = Major usability problem
4 = Usability catastrophe

THINK ALOUD

Task #1

- The 10th of February, you have a study event in the morning, but due to a medical appointments you are forced to postpone it to the afternoon, modify the event.*

	<i>Related incidents</i>	<i>Priority*</i>	<i>Description</i>	<i>Reason</i>	<i>Good or bad</i>	<i>Solution</i>
<i>Finding calendar</i>	none	4	User had difficulties into finding the calendar: "The calendar should be in the home, oh here it is! It would be better bigger"	after the log in, the user analyzed with attention the homepage	good	change calendar icon
<i>Modify inside details</i>	none	4	User tried to modify the event directly from the detail without going into edit: "I'm trying to modify from the event details, because is more rapid"	click on the calendar and the right day, click on it for details, try to click directly on displayed hours, then click on options menu	good	none

Users preferred find the event through the search form rather than the calendar and some of them suggested to make the calendar icon more visible.

Task #2

- You have signed to the gym and you decided to go every Tuesday and Thursday, create the appropriate events.

	<i>Related incidents</i>	<i>Priority*</i>	<i>Description</i>	<i>Reason</i>	<i>Good or bad</i>	<i>Solution</i>
Wellness category	none	4	User saved the event in the subcategory body care: "I find that sport could be inside this typology"	click on add event, inserted title, click on wellness category instead of free-time	good	make category customizable
No title	none	4	User tried to save the event without inserting the title	choose of category, of time and of periodicity and then save	good	none
Customized	none	4	User tried to insert the periodicity through customized: "Like this I can chose the day that I want, wait I have to insert it manually, every week will be better"	click on add event, compiling the form, select last option customized instead of the second every week	good	none

This task presented no problems, the form was very clear and no difficulties arise. Just some users preferred sport as wellness.

COOPERATIVE EVALUATION

Task #1

- To the exam scheduled for 16th of February, add the division by pages, setting total pages equal to 100, minimum pages to 6 and maximum to 10. Then, adjust the recap starting from 11th of the same month.

<i>Related incidents</i>	<i>Priority*</i>	<i>Description</i>	<i>Reason</i>	<i>Good or bad</i>	<i>Solution</i>	
<i>Modify inside details</i>	none	4	User tried to modify the event directly from the detail without going into edit: "I'm trying to click here on details"	click on the calendar and the right day, click on it for details, try to click directly on the screen, then click on options menu	good	none

Then, **POST TASK EVALUATION** (transcript played back to participant for comment): the flow of actions was well guided by icons and texts. Some of them stated that the form contained lot of information, and to reach the goal they carefully read everything. Although they also realized that, to obtain a good study plan, all that questions were necessary.

Task #2

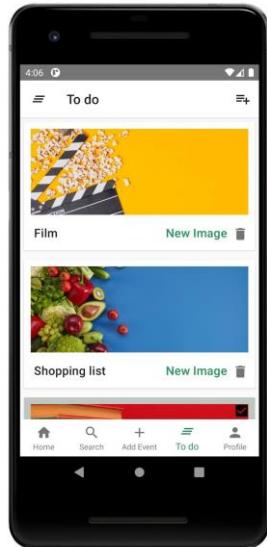
- Your eyes are a bit under stress, try putting the dark theme.

Controlled experiment, ANOVA

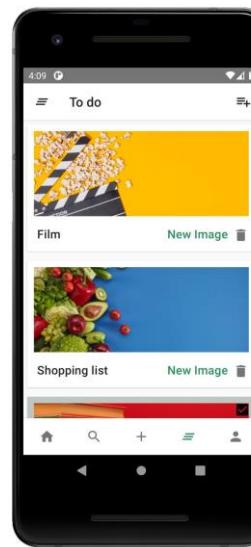
Test #1

- The 17th of February, you have dinner with friends: check the shopping list and create a new one for the games to be done in the evening (write 4 items).*

We want to see how the users relate themselves with the icons of our application, especially for what concern the bottom navigation bar. We build two interfaces:



interface having both label and icons



interface having only icons

First hypothesis: users will interact better and easier with labelled icons.

#1 Results on the time spent

If the F is bigger than the F-critic, then we can reject the null hypothesis (stating that there are no difference among the two interfaces).

Interface style with label	Interface style without label
114	62
47	194
200	51
38	276
85	68
69	190
105	50
75	150
53	209
78	177
103	250
56	218

Summary

Gruppi	Conteggio	Somma	Media	Varianza
Colonna 1	12	1023	85,25	1882,93182
Colonna 2	12	1895	157,916667	6523,90152

Analysis of Variance

Origine della variazione	SQ	gdl	MQ	F	Valore di significatività	F crit
Tra gruppi	31682,6667	1	31682,6667	7,53736048	0,011807763	4,3009495
In gruppi	92475,1667	22	4203,41667			
Totale	124157,833	23				

$7.54 > 4.3$, so our hypothesis is true

#1 Results on the errors

If the F is bigger than the F-critic, then we can reject the null hypothesis (stating that there are no difference among the two interfaces).

<i>Interface style with label</i>	<i>Interface style without label</i>
1	0
0	2
1	1
0	4
2	1
2	3
2	0
0	5
1	2
0	1
1	2
0	3

Summary

<i>Gruppi</i>	<i>Conteggio</i>	<i>Somma</i>	<i>Media</i>	<i>Varianza</i>
Colonna 1	12	10	0,83333333	0,6969697
Colonna 2	12	24	2	2,36363636

Analysis of Variance

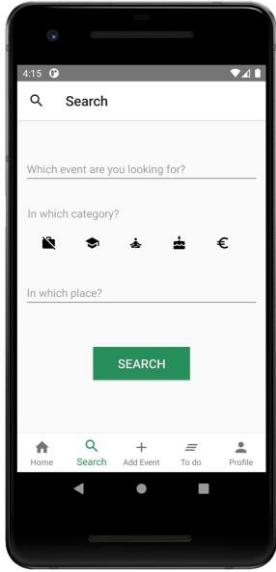
<i>Origine della variazione</i>	<i>SQ</i>	<i>gdl</i>	<i>MQ</i>	<i>F</i>	<i>Valore di significatività</i>	<i>F crit</i>
Tra gruppi	8,16666667	1	8,16666667	5,33663366	0,030645614	4,3009495
In gruppi	33,6666667	22	1,53030303			
Totale	41,8333333	23				

$5.34 > 4.3$, so our hypothesis is true

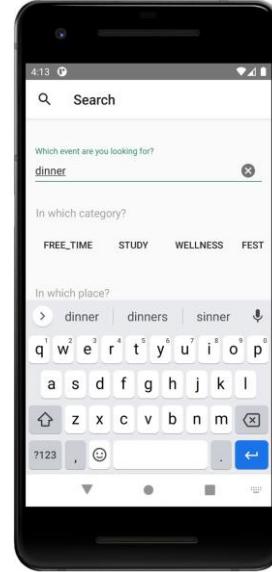
Test #2

- You don't remember when you're planning dinner with friends: look for free-time events.

We want to see how the users relate themselves with the search form. We build two interfaces:



interface with category represented by an icon



interface with the name category written inside a button

Second hypothesis: users will interact better and easier with the search form having an explicit list of the event's categories name.

#2 Results on the time spent

If the F is bigger than the F-critic, then we can reject the null hypothesis (stating that there are no difference among the two interfaces).

Interface style with icon	Interface style with button
28	16
32	30
27	8
27	6
30	12
13	15
25	12
73	58
53	9
38	7
43	20
56	18

Summary

Gruppi	Conteggio	Somma	Media	Varianza
Colonna 1	12	445	37,0833333	274,992424
Colonna 2	12	211	17,5833333	206,992424

Analysis of Variance

Origine della variazione	SQ	gdl	MQ	F	Valore di significatività	F crit
Tra gruppi	2281,5	1	2281,5	9,46710257	0,005515192	4,3009495
In gruppi	5301,83333	22	240,992424			
Totale	7583,33333	23				

$9.47 > 4.3$, so our hypothesis is true

#2 Results on the errors

If the F is bigger than the F-critic, then we can reject the null hypothesis (stating that there are no difference among the two interfaces).

<i>Interface style with icon</i>	<i>Interface style with button</i>
3	0
1	0
1	0
0	0
2	1
0	0
0	0
3	0
2	1
1	1
3	0
1	0

Summary

<i>Gruppi</i>	<i>Conteggio</i>	<i>Somma</i>	<i>Media</i>	<i>Varianza</i>
Colonna 1	12	17	1,41666667	1,35606061
Colonna 2	12	3	0,25	0,20454545

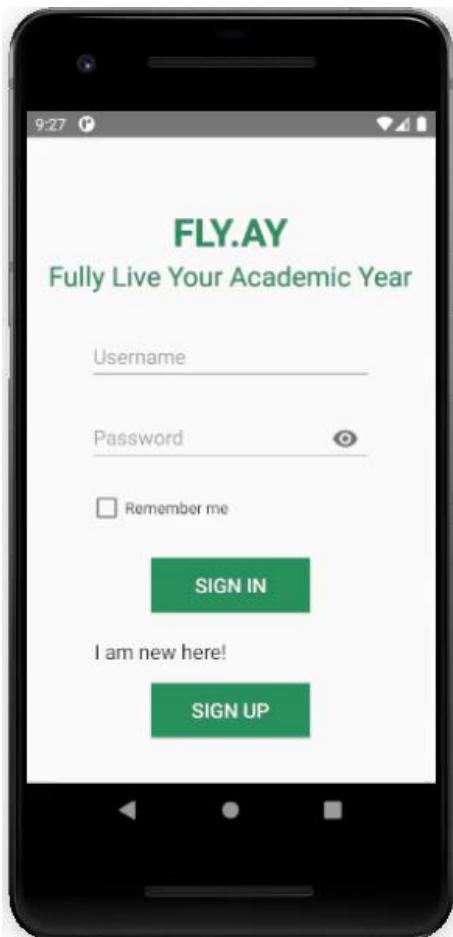
Analysis of Variance

<i>Origine della variazione</i>	<i>SQ</i>	<i>gdl</i>	<i>MQ</i>	<i>F</i>	<i>Valore di significatività</i>	<i>F crit</i>
Tra gruppi	8,16666667	1	8,16666667	10,4660194	0,003803533	4,3009495
In gruppi	17,1666667	22	0,78030303			
Total	25,3333333	23				

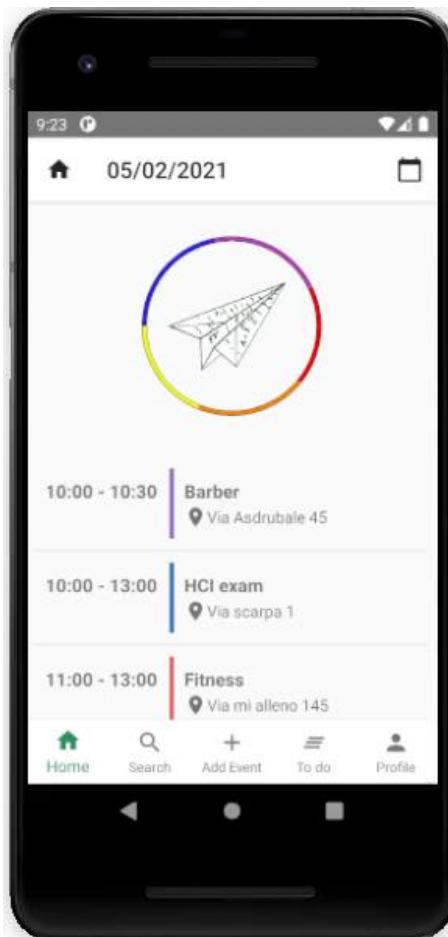
$10.47 > 4.3$, so our hypothesis is true

DEMO

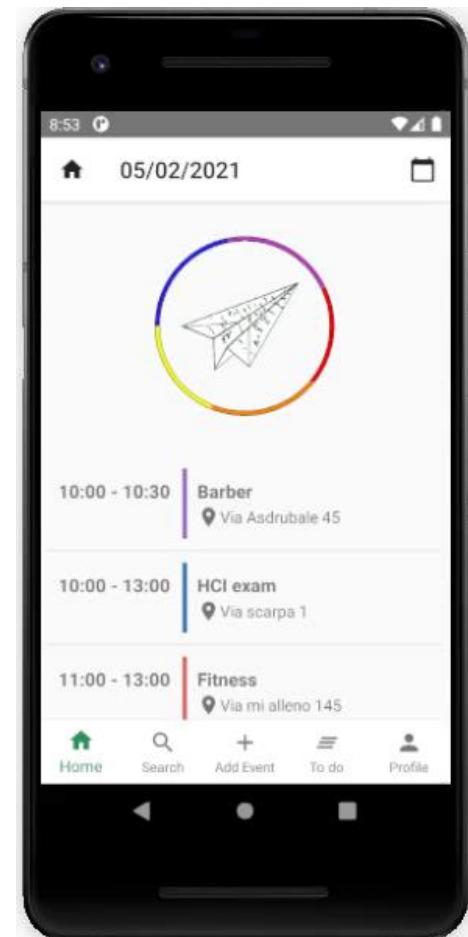
Login:



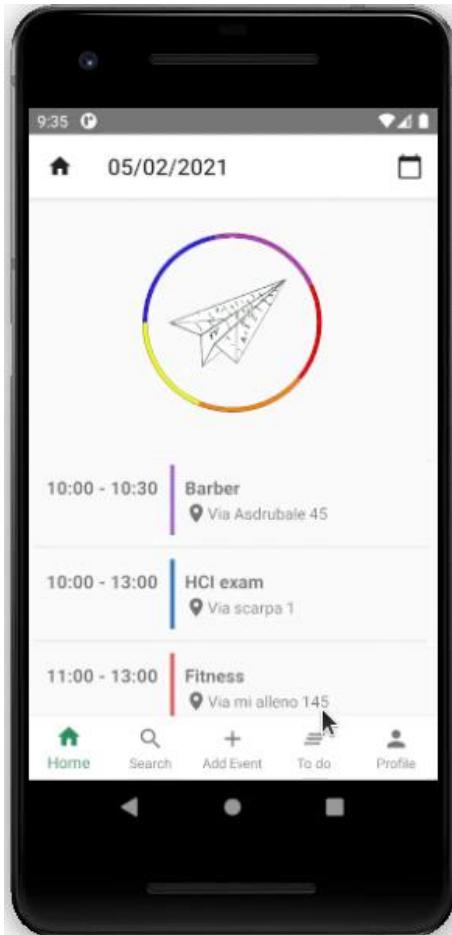
Search exam:



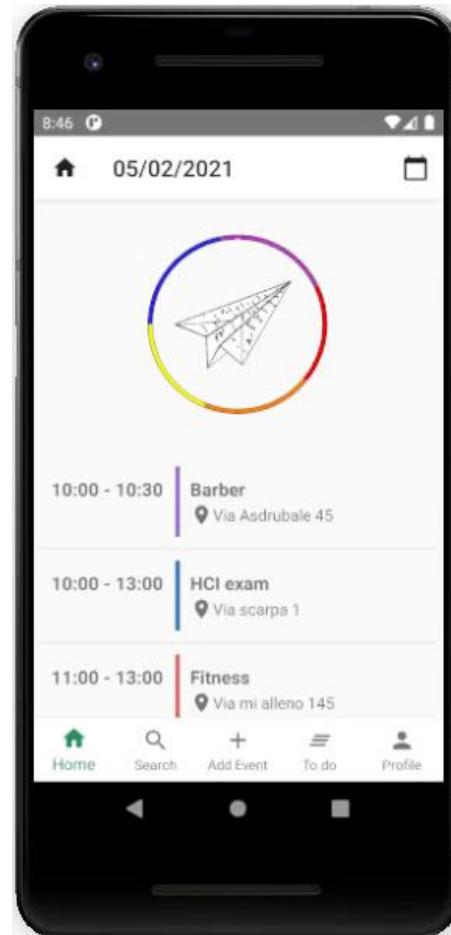
Edit birthday:



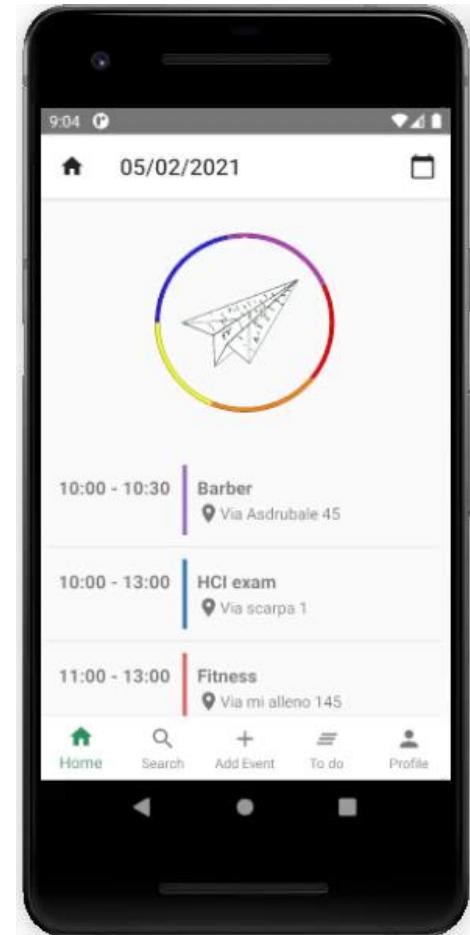
Add exam:



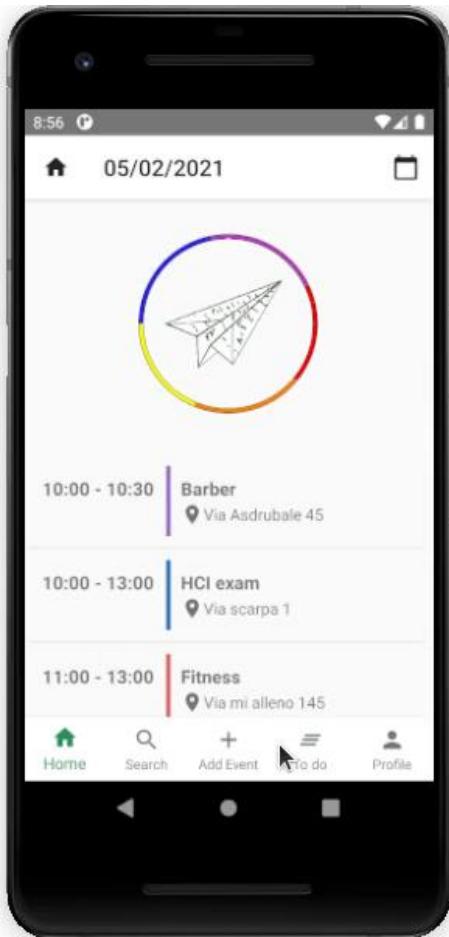
Edit exam:



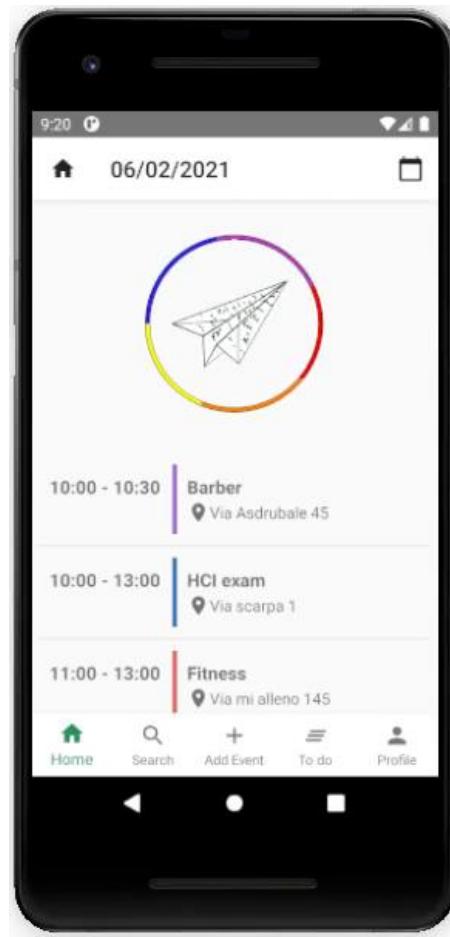
Create free time event:



Edit list:

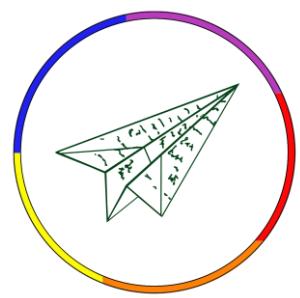


Create list:



Black theme::





Thanks for the attention