# Exercise: Applying Heuristics

**Human Computer Interaction** 

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Academic Year 2019/2020







#### 10 Nielsen's Usability Heuristics

- #1: Visibility of system status
- #2: Match between 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

#### **About your submissions**

- High creativity and wide spectrum of applications
- Many usability problems found at first glance
- Some "easy targets" to shame (universities, public services, ...)
- Some easy targets to fame (multi-billion enterprises)
- You found hard to synthesize the application goal in one sentence
- Motivations range from 1 line to 1 page... (common format needed)
- Some screenshots were not significant (home page, registration screen, marketing screenshot, ...)

#### Overview

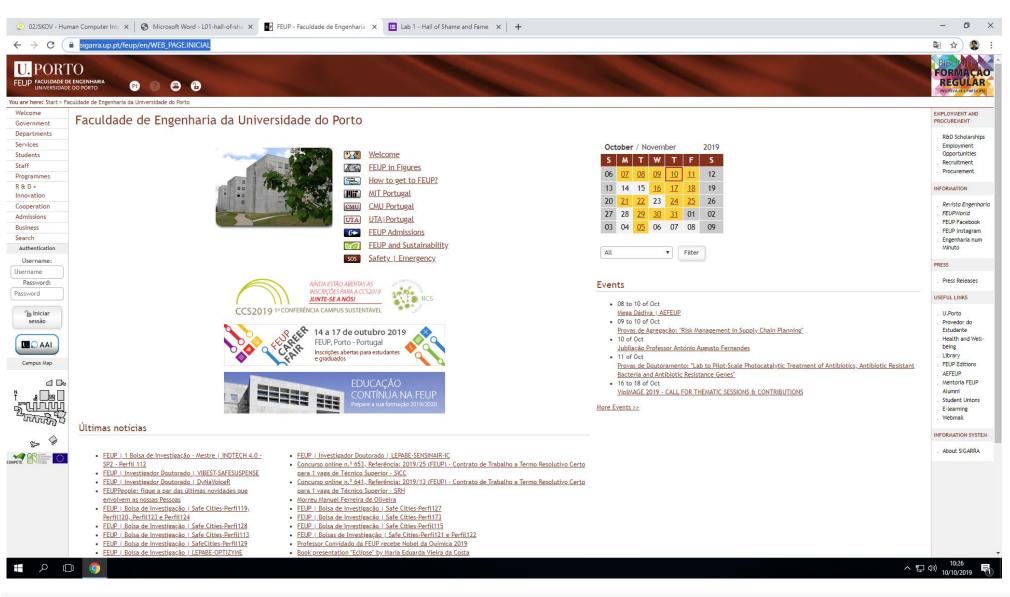
Category	₽	4
Teaching	6	1
Public administration	9	1
Audio-video and streaming	2	6
Transportation and travel	4	14
Gaming	3	1
E-commerce	4	6
Money	1	3
Fun and entertainment	1	1
Communication and collaboration	2	3
System Utilities	6	1
Office and productivity	2	3

## Is there a pattern? (Who values usability the most?)

- Public vs. Private institutions
- For-profit vs. Non-profit
- Startups vs. Corporations
- Incumbent vs. Emerging
- Work vs. Entertainment

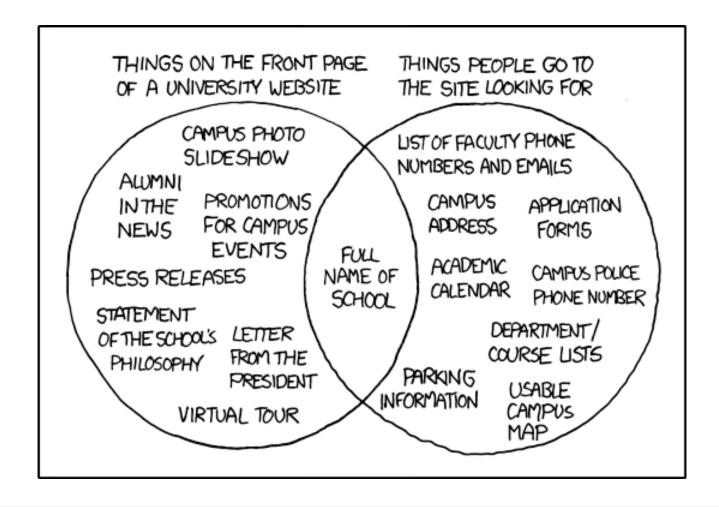
## Teaching

### **University Information System**



Too many links there are not important, making difficult to distinguish between important and not-important things. Login form in the wrong place.

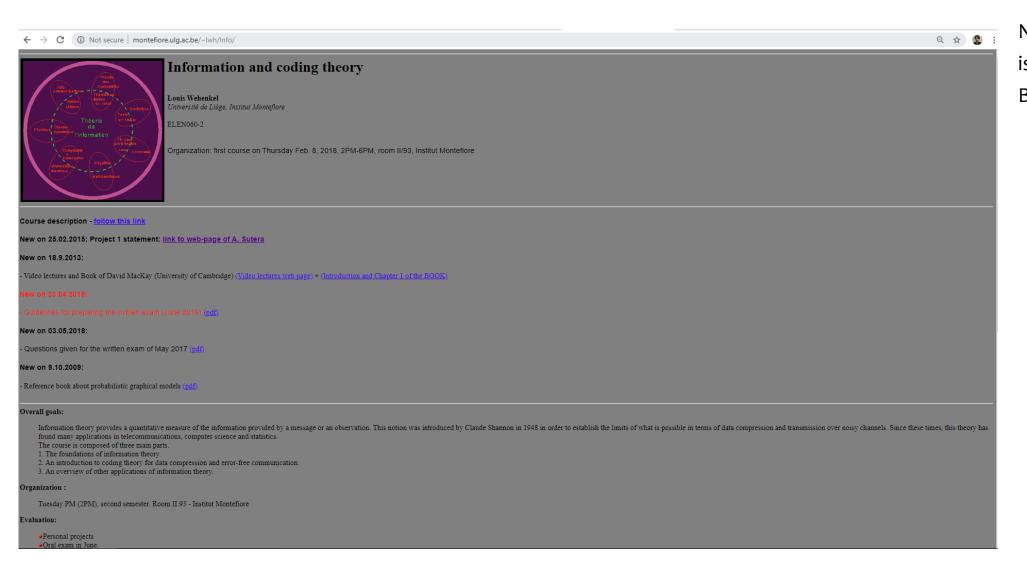
#### University Home Pages are an easy target...



https://xkcd.com/773/



#### Teaching webpage. Access to classes materials



Not intuitive. Important link is hidden. Dates are too big. Bad contrast.

#### **Vale school of art department**



Awful element layout





Home

Teachi

Researc

Direction

More

#### COMPUTER NETWORK TECHNOLOGIES AND SERVICES / TECNOLOGIE E SERVIZI DI RETE

Objectives | Lecturers | Content, material, and schedule | Lab Experiences | Exams | Bibliography | Final project

#### **Objectives:**

The course presents advanced topics concerning computer networks. Specifically, it presents and discusses widely deployed technologies and offered services, with the aim of providing the knowledge for wisely making technical choices when in charge of network design and operation.

#### Language:

This page refers to to different courses, which present the same topics but are taught in different languages. Specifically,

- . Computer Network Technologies and Services is taught in English
- <u>Tecnologie e servizi di rete</u> è riservato per gli studenti del percorso di studi in italiano. Those courses present the same topics, make use the same set of slides, share the same learning material (slides, assignments, labs) and the same web site, have the same lecturers. However, lectures (and the exam) will be given in either English (for <u>CNTS</u>) or Italian (for <u>TSR</u>).

#### Instructors:

Prof. Mario Baldi (mario.baldi[at]polito.it), tel. 011 090 7067

Prof. Guido Marchetto (guido.marchetto[at]polito.it), tel. 011 090 7094

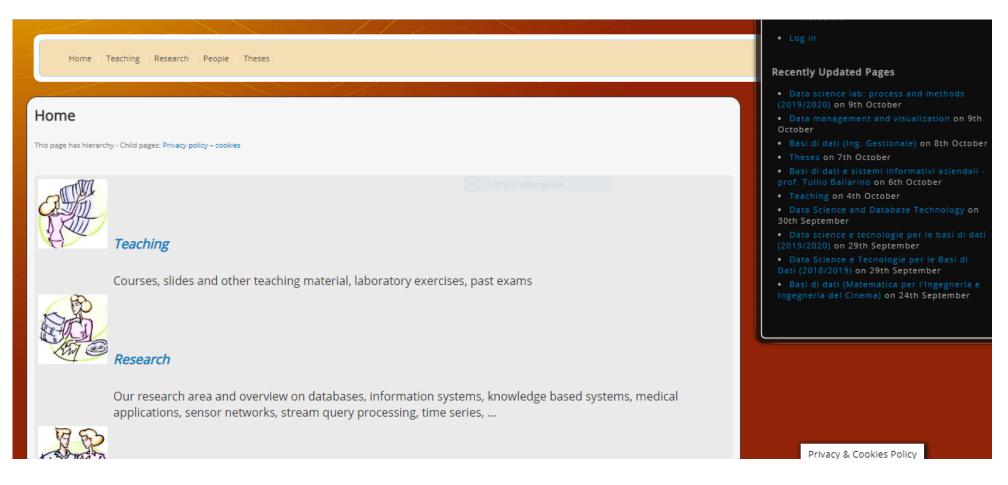
#### Lab assistant:

Ing. Matteo Bertrone (matteo.bertrone[at]polito.it), tel 011 090 7098 Ing. Jalolliddin Yusupov (jalolliddin.yusupov[at]polito.it), tel 011 090 7098

#### Lab Experiences:

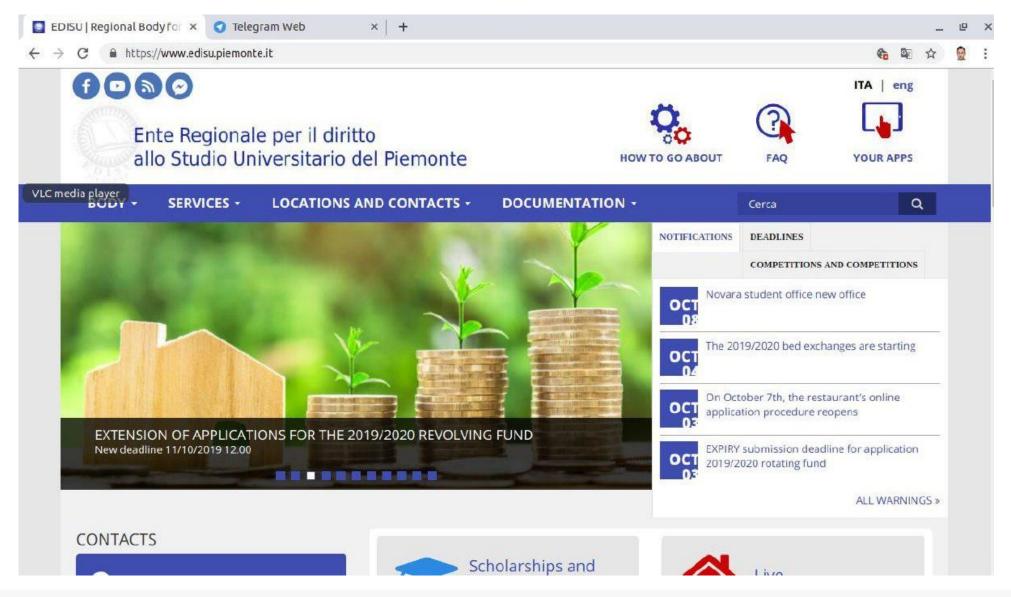
The bad thing is that useful links are written in a small font dimension, while they should be enhanced in order to allow the students to find what they need in a little time. Also many material is really hidden in the content of the page (for example past exams are really hard to find).

### **\$\Pi** teaching website



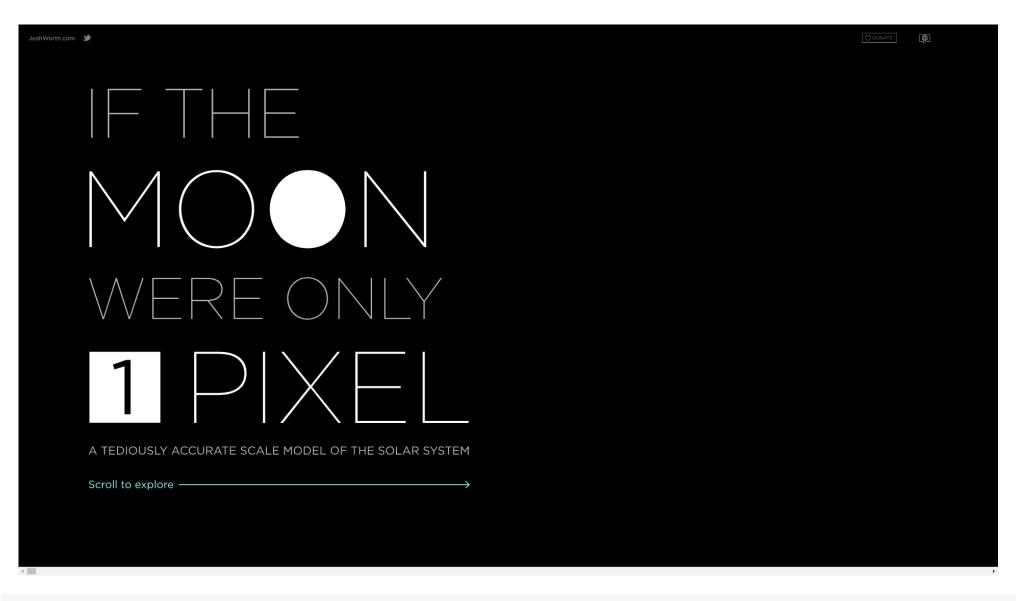
The same hypelinks menu is proposed twice. The second menu offer a minimal additional explanation compared to the first one, so it's utility is dubious. Furthermore, the bad pagination between title, image and description may confuse an inexperienced user .

#### **University students**



The website doesn't have the login form on the top left corner or in a more "standard" position, it's hard to find it and it's not intuitive. It is placed inside a drop down menu or in the middle of the page. When you click on the login button, you expect some login form but the website only shows a lot of services to choose: it's not what you were looking for.

### **Show all solar system in scale**



Interface is very essential. Color are well used. Few buttons, all you need is scroll bar.

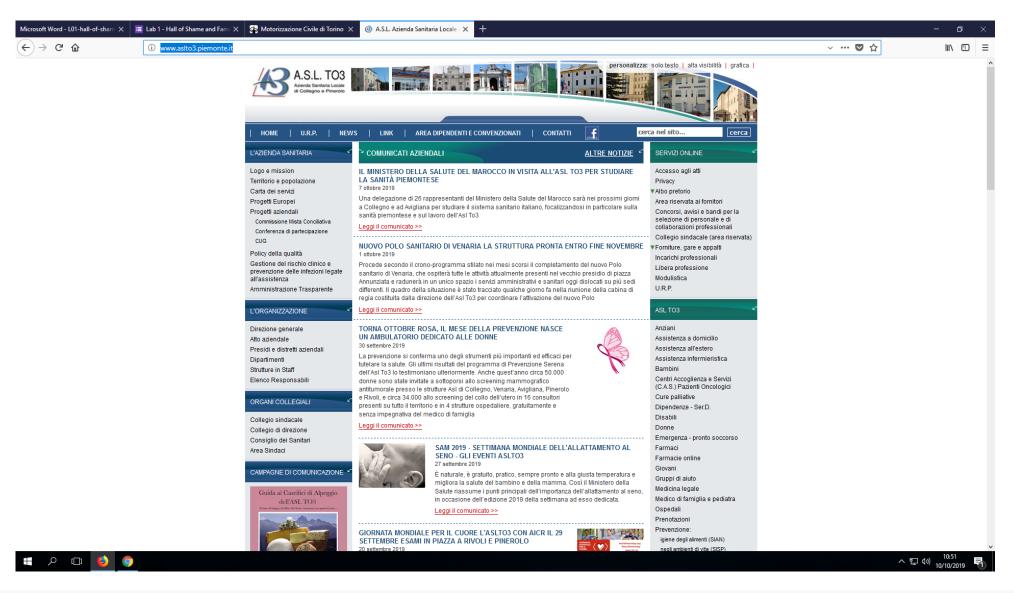
## **Public administration**

#### **\$\P** services for social assistance



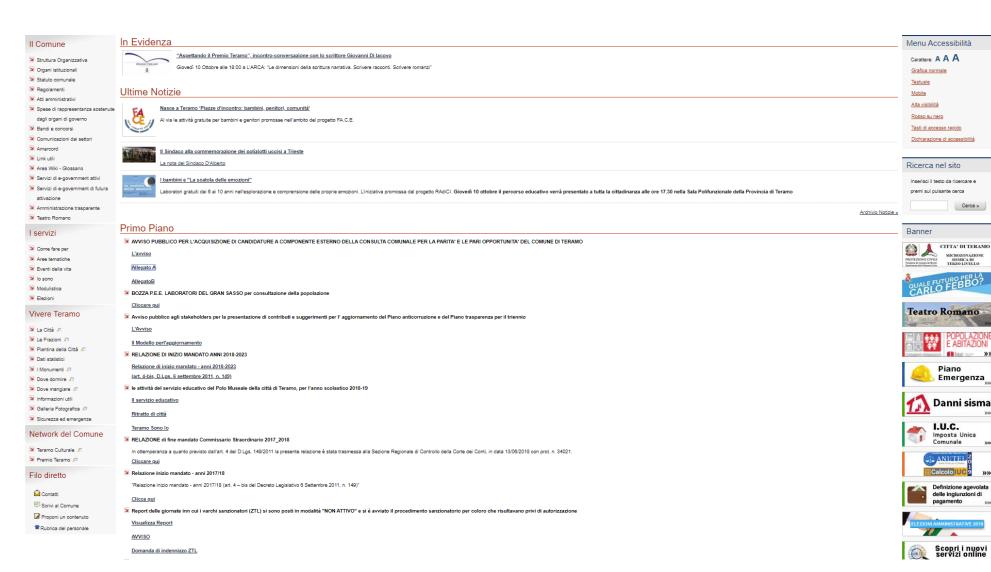
Hard to find what is necessary, login in the topcenter, too many labels in different places, the login hasn't the automate redirect so a user has to find again what needed,

### Fgives information&services regarding healthcare



There are too much menus where the user can click, too much things to read. For the user is difficult to find what he is looking for

#### **Pofficial city website**



- -it is hard to learn
- -once learned it is hard to remember the path
- -categories are not easily recognizable and not well divided
- -low efficiency of searching mechanism
- -confusing interface (too many links)

### **\$\pi** official city website



-readability: font is too small by default -inconsistent interface: images are not loaded at all; when you click on some links you are redirected to another web site of the same institution with a completely different interface -you don't know in which site you are without looking at the link in the address bar

#### Find information about the city





It's bad because it has too many elements, too small. The user can't find what is looking for on the page.



### **Pofficial city website**



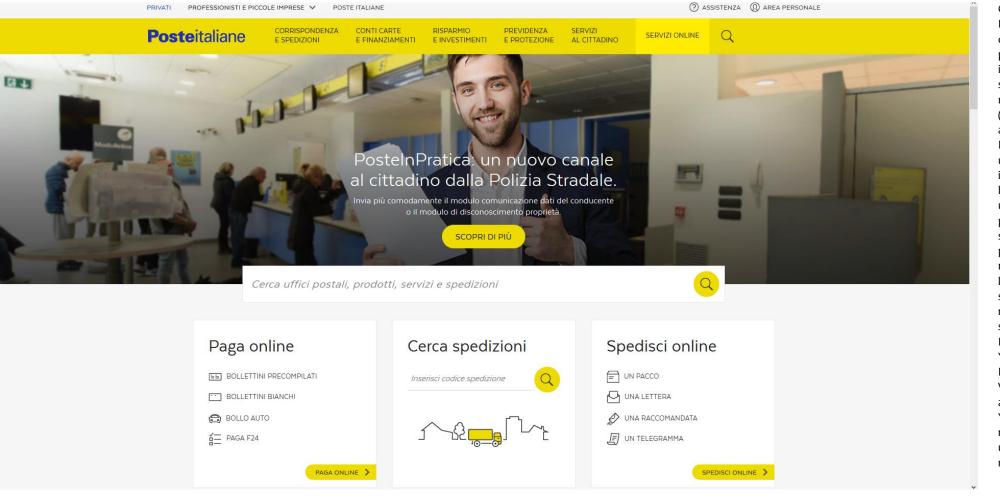
It is impossible to understand where to find things, the search bar seems to be in the image, a lot of advertising makes the page not easy to understand, the main menu is partially hidden in another image, very difficult to navigate on the site.

#### Provide information about municipalities



Too many things that are not the topic of site. Chunk of information scattered around the site. Ugly and small font.

#### **₹Postal service**



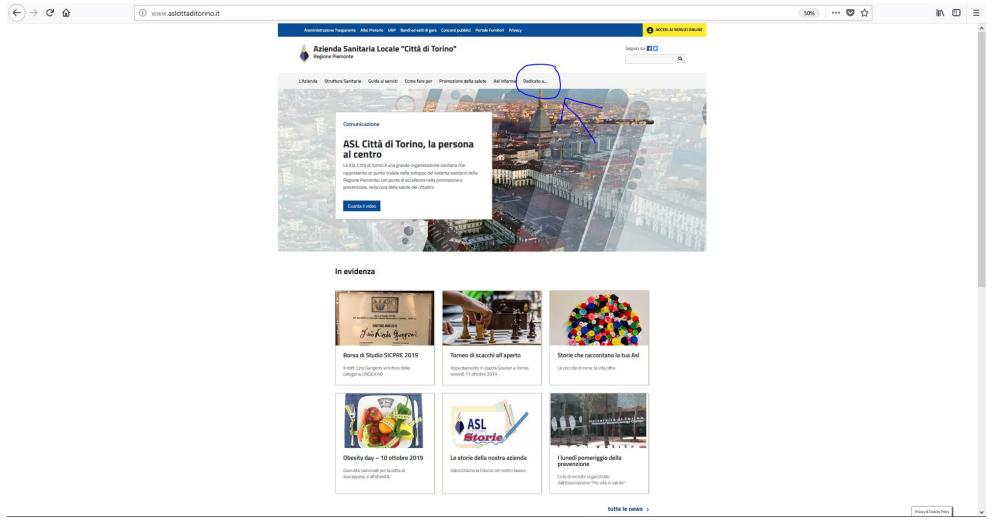
The main operations performed on postepay card, necessary to be done on the website, are: -Check cash of postepay card - Perform payment Problem is that these 2 operations, probably the only ones ever done by 85% of owners of postepay, are not shown clearly and in large font in the homepage of posteitaliane, but hidden in sub menus. People with more experience can navigate submenus and search for solutions (Needing some minutes of thinking by the users, and many mistakes), or search in google ( Needing a learning phase ). Usually less expert users need to ask to someone else the help to interact with it. An example may be a parent that has to recharge the postepay for the child at the university, or an adult that needs to check the postepay account. Usefulness: does it do something people want? o Yes, it's something people need to perform operations by home, and not go to postal office Learnability: is it easy to learn? o No being the main operations hidden in submenus Memorability: one learned, is it easy to remember? o No because there are many submenus to interact with, and to navigate Effectiveness: does it allow reaching the goal? o Yes Efficiency: once learned, is it fast to use? o Everytime it brings a sense of loss and confusions Visibility: is the state of the system visible? o No at all Errors: are errors few and recoverable? o Yes completely, but many will occur before reaching the goal Satisfaction: is it enjoyable to use? o Everytime takes time and effort, some must be performed when calm and energyful

#### \$\P\$\text{basic information about fire fighters}



It's bad because the menu is too small, and the are a lot of distracting elements

#### services realted to health



The website of asl has to provide many services to people in their entire life range, but the section, more important than the others, is not so visible with respect to the others, being in the same font, and the last among all the visible links. In the main page is just shown the mixed list of services, not the list related to the specific users Searching the place where change doctor is also hard, if not a nightmare, resulting in frustration and bringing everyone to go directly to the first location described in the office, or calling by phone. Usefulness: does it do something people want? o Yes, it's something people use to gain informations, or in some rare cases to perform operations Learnability: is it easy to learn? o No being this operation hidden among many others, and often is not even discovered Memorability: one learned, is it easy to remember? o yes, being just one link to reach the catalogue Effectiveness: does it allow reaching the goal? o Yes Efficiency: once learned, is it fast to use? o yes Visibility: is the state of the system visible? o No at all Errors: are errors few and recoverable? o Yes completely, but many will occur before reaching the goal Satisfaction: is it enjoyable to use? o Everytime takes time and effort, some must be performed when calm and energyfull

## Audio-Video and streaming

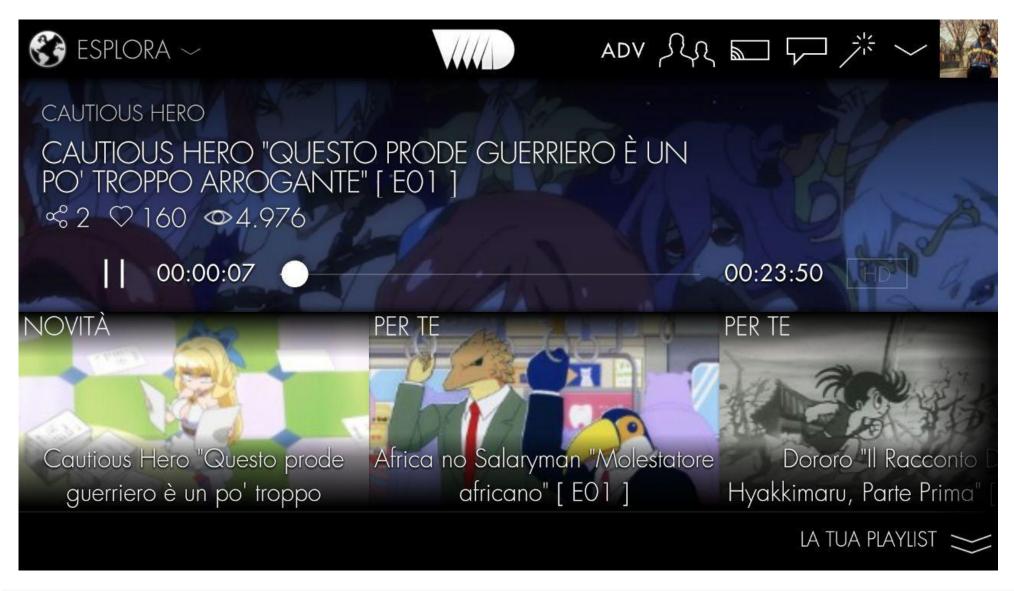
#### View and control live video streams



the buttons in the lower part of the interfaces are not easy to understand especially because they are black and grey. The button in the top right corner has an home as icon but it represents the menu.



#### Streaming of Anime and other contents for free

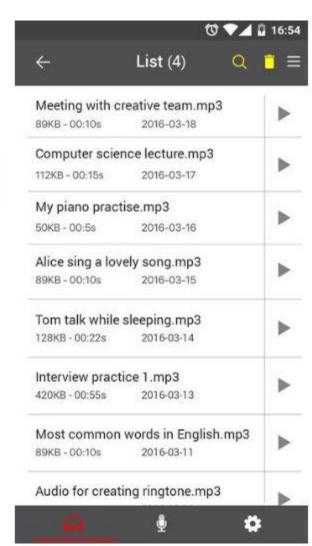


The streaming is free thanks to ads, but they're too intrusive. Everytime you open the app, a random content is played. The interface is full of elements and too confusing.

#### **Precord voice tracks**

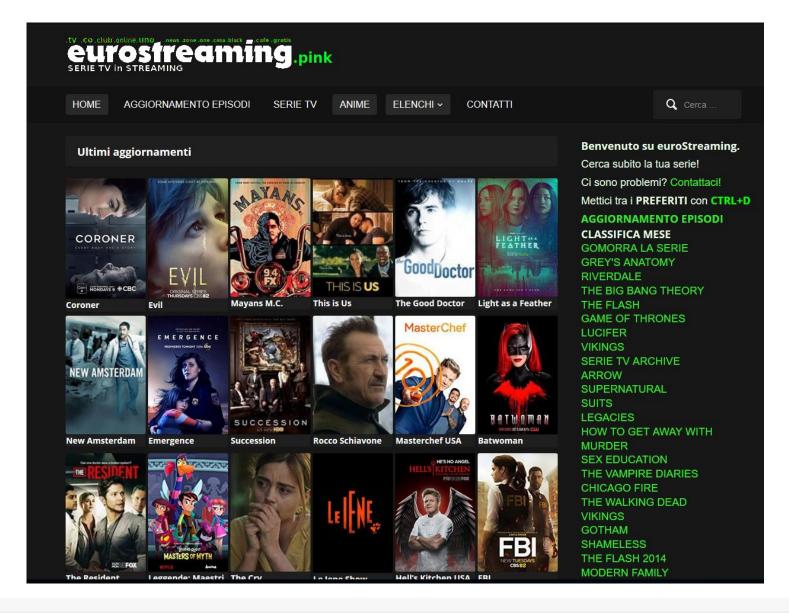






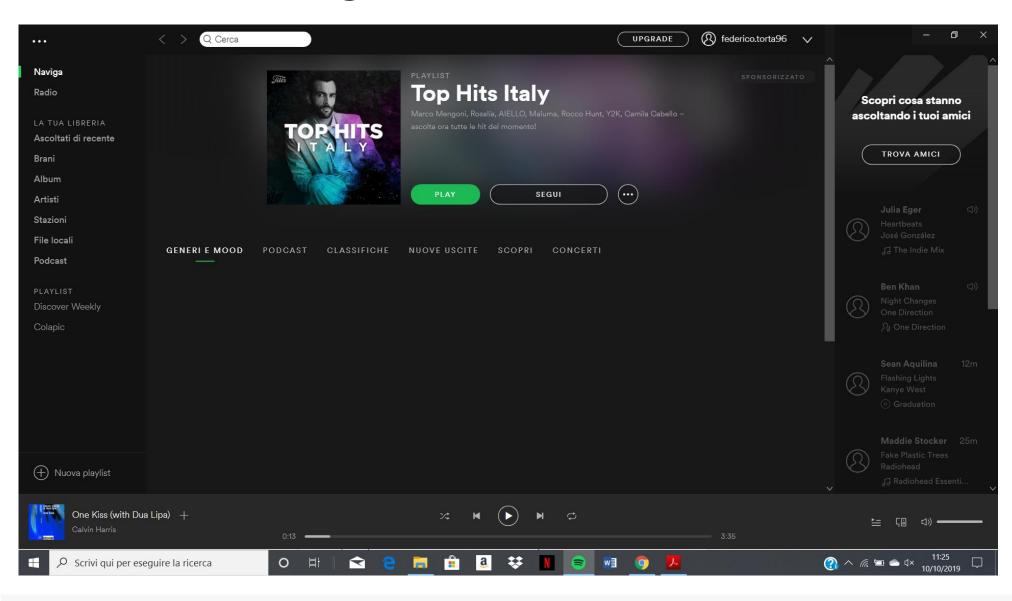
the ui is friendly and easy to use because in the main page the user can start recording just pressing the big red button. Using the bottom bar the user can navigate through settings or the list of voice recorded tracks.

#### see film and tv series for free



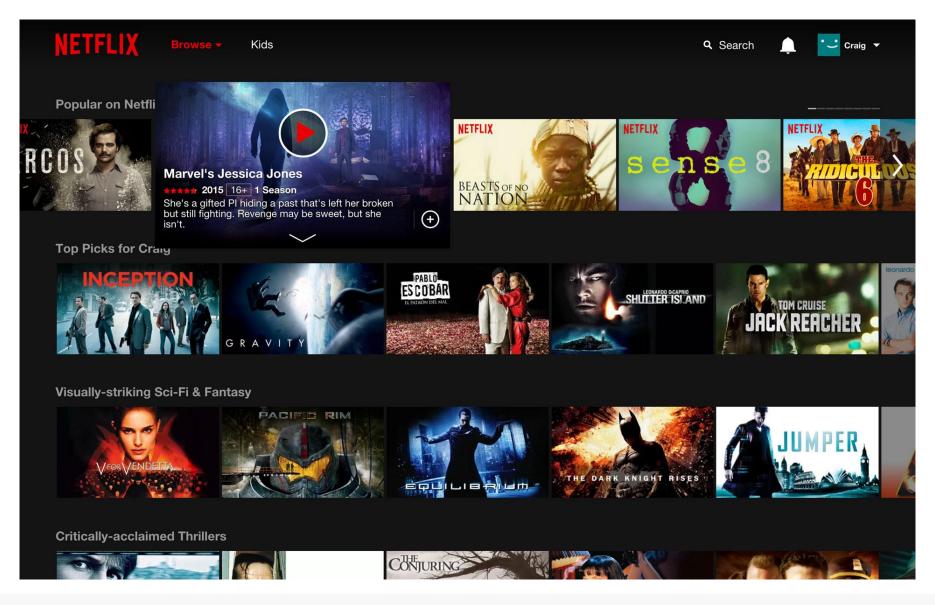
i think that the interface is particularly good because it suggest latest update and there's a simple search box on the top right to search the title the user is looking for

#### music streaming service



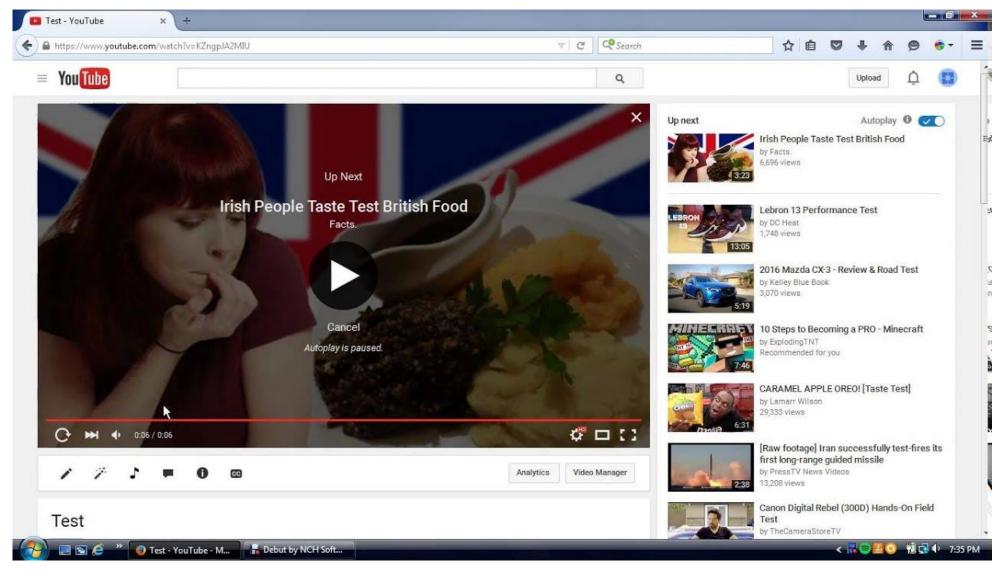
We think that the interface is good because it's simple; the suggested contents appear in the home page in a very clear way while all the possible actions are grouped in a side menu

### **Streaming movies and tv shows**



All the components are where they are supposed to be (log-in, search bar...). Intuitive. Adapted to the user, preferences

#### **a**watch any video



- (1) Interface is really good and simple to use. its has following features: o Usefulness: its something people need and want. o Learnability: it is easy to learn. o Memorability: one learned it is easy to remember. o Effectiveness: The goal is to get information on any topic using videos. o Efficiency: once learned it is fast to use. o Visibility: the state of the system is visible. o Errors: very few and recoverable errors. o Satisfaction: people enjoy using YouTube.
- (2) We think that is a good interface because it's very intuitive and videos are divided into categories so the users is not lost in his searching; a really good thing is the lateral bar that allows the users to navigate through the site very easily

#### Find music title by listen the song



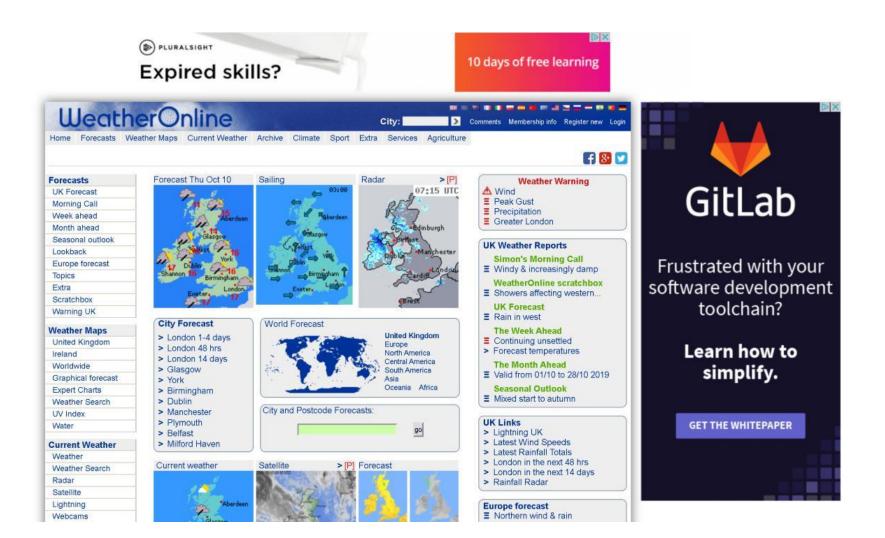
(1)
It's good because it has few elements, a simple and clear description and you immediately understand how to use it.

(2)

The interface shows immediately a big button that does what the app is supposed to do. Everything is kept really simple. There are few sections and all of them are easily accessible. Furthermore, the interface is very colorful.

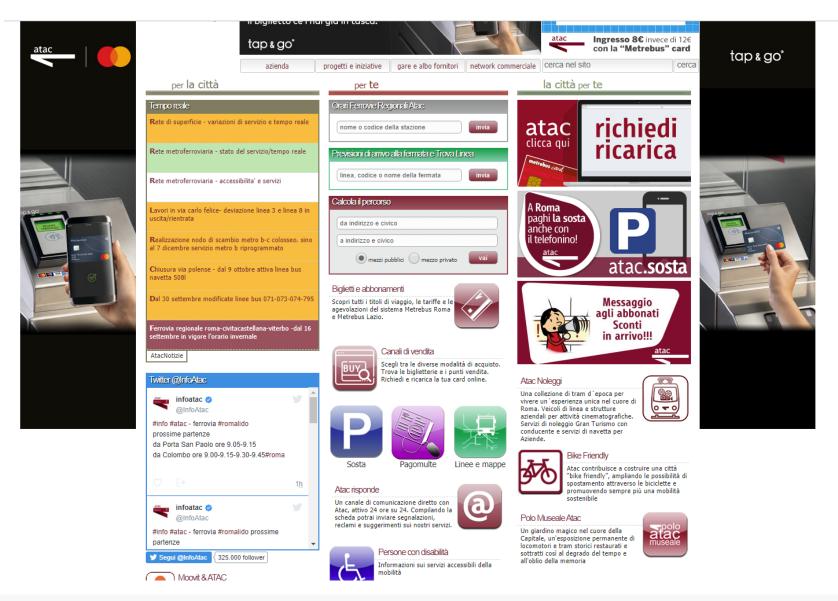
## **Transportation and Travel**

#### **forecast** weather



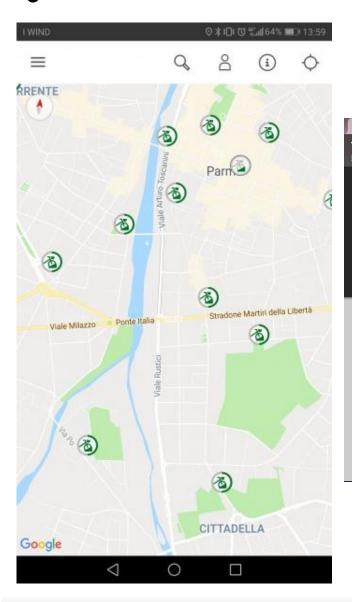
small fonts / a lot of text information / unclear navigation bar with unrelated items / dedication of around 30% of page to ads/ old fashion design / duplicate content (city search form)

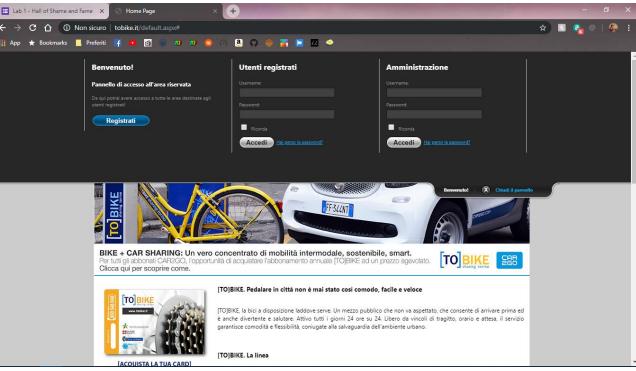
#### Tinformation about transport. Buy tickets



It's complicated to understand how to use the website.

#### **Prental of to-bikes**





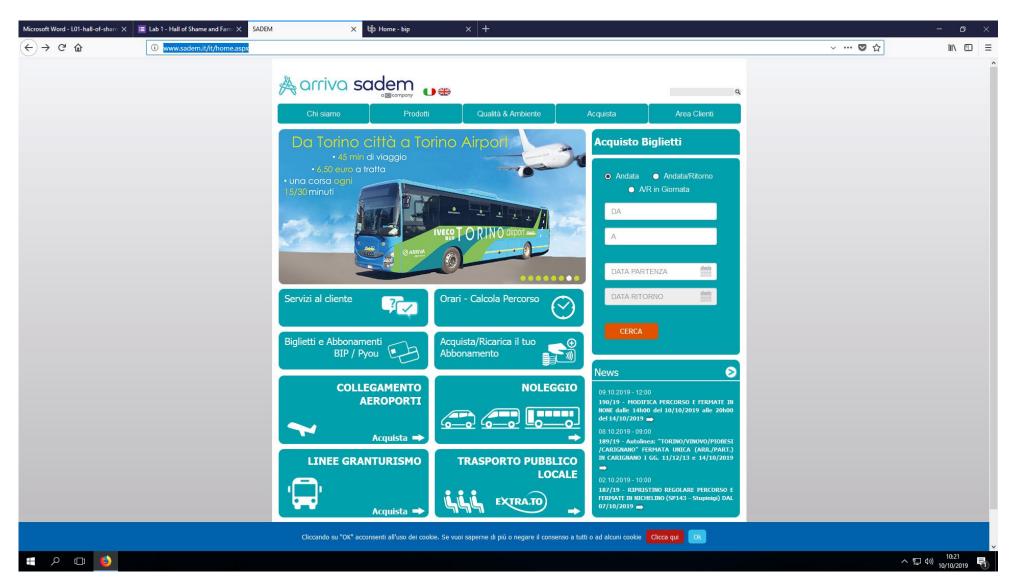
- (1) its slow. it has following features: o Usefulness: people need it. o Learnability: not really. o Memorability: one learned it is easy to remember. o Effectiveness: it has a goal. o Efficiency: once learned it is fast to use. o Visibility: the state of the system is not visible everytime. o Errors: there are errors which are recoverable o Satisfaction: not enjoyable to use.
- (2)
  The UI is very confusionary and some elements are ambigous such as the login form (administration vs users).
  Looking for information is very hard and frustrating.

## Consult timetable of buses, get information and buy tickets



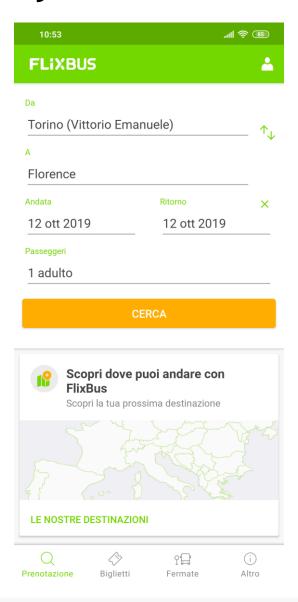
The interface is bad: - too many boxes in the main screen (confuse the user) the menu has the same color of all the other elements of the page (does not stand out with respect to others) - the login icon is missing (it is not so intuitive for the user to understand how to log in) - the boxes are not in an intuitive order (main functions aren't put in the first positions)

#### Consult timetable of buses, get information and buy tickets



It's very clear where you have to click to perform different actions: sections are well divided. The most important thing (buy ticket) may be done in the homepage.

#### Buy and store tickets and information on routes





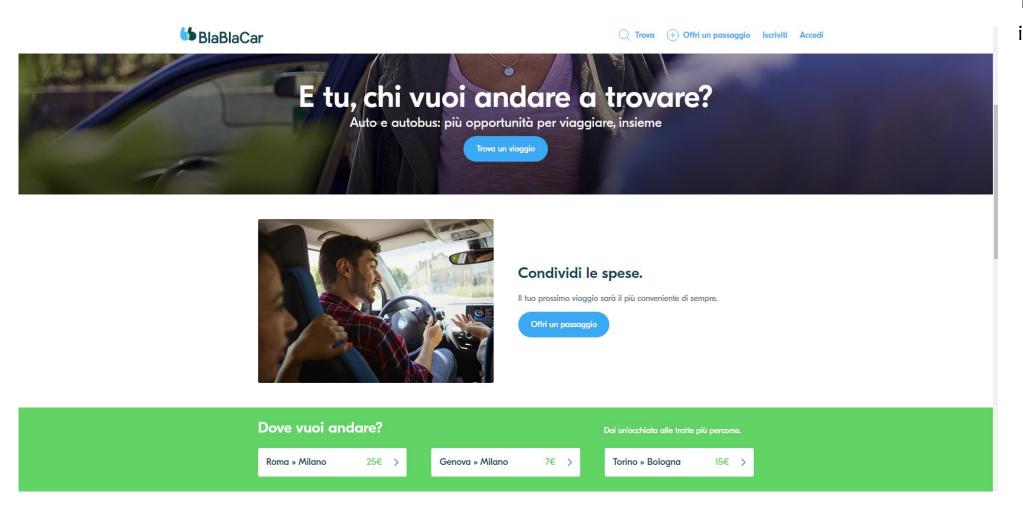
(1)

Very simple, functions are well divided, there is a small menu at the bottom of the screen very intuitive.

(2)

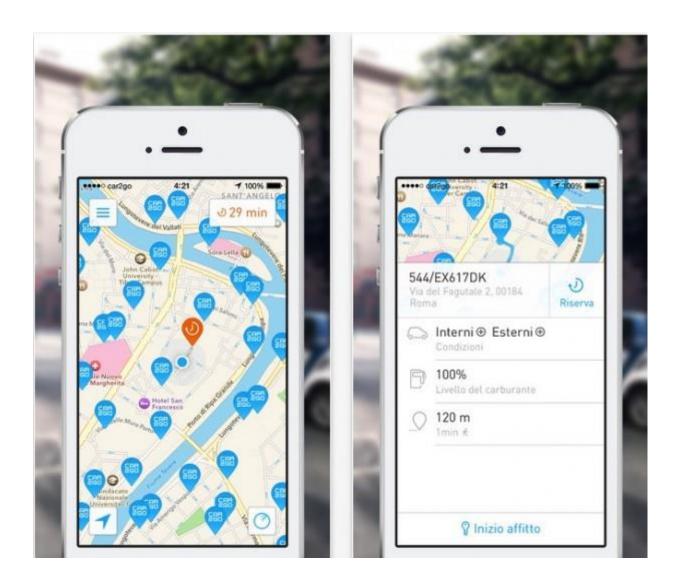
The interface is good because it's very simple and intuitive, there aren't too many buttons and just the main functions are displayed in the main screen in the right/usual positions

#### To book a seat in a car ride from a destination to another.



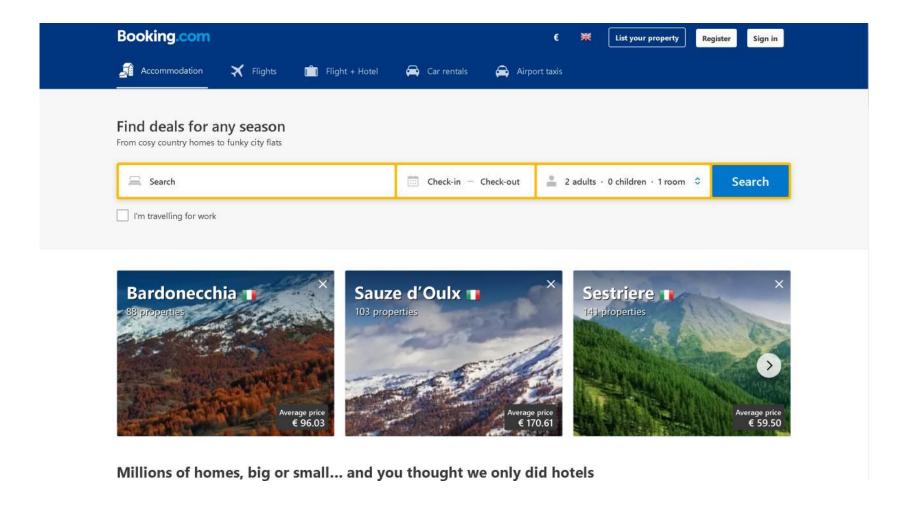
The interface is very immediate and easy to use.

## car sharing



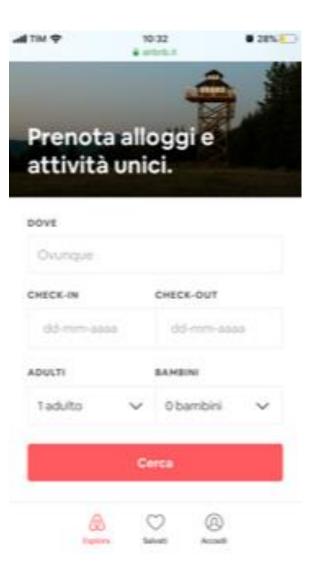
Usefulness: you can reach your goal in fast way Learnability: it's vary easy to use, in few second you can rent a car Memorability: it is easy to remember how to use it Effectiveness: does it allow reaching the goal? yes, perfectly Efficiency: you need few tap on screen to reach the goals Visibility: the system status is clear Errors: I have never find errors or problem Satisfaction: the satisfaction is high, i really like use this app

# foffer travelers some place round the world



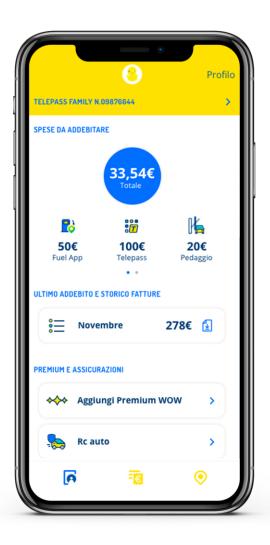
Nice navigation with good icons that show the purpose of the item quickly / user can finds his/her first necessity which is a search form in first shot of the website / good selection of colors and responsible design are another interesting thing about it

#### Find a place to stay for holidays



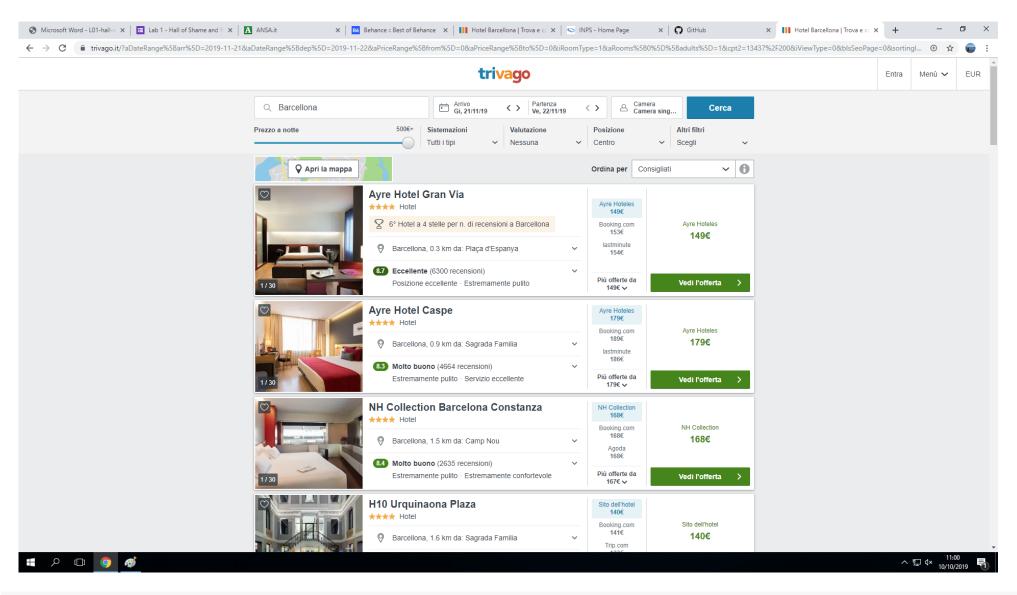
The interface is good because it's clean and it just has the essential elements for reaching his goal.

#### manage contract and services



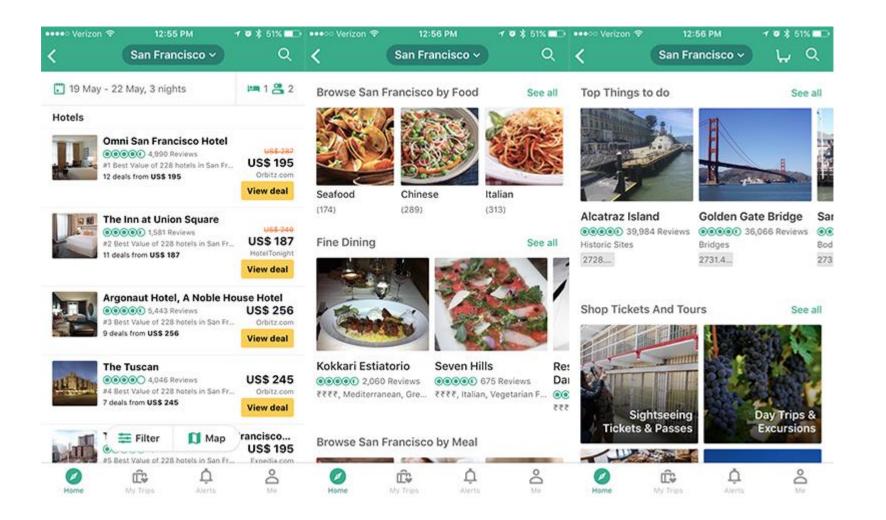
The interface is good because it explains with string the purpose of each button. The app shows as first thing the amount to pay at the end of trimester which is the most important information that the user wants to know.

#### Book hotels for trips



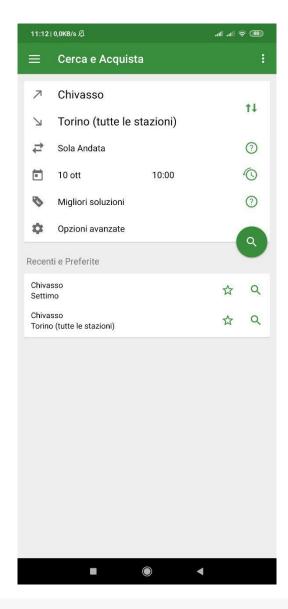
Minimal informations to find the first cases, then you can choose more options but while you're already seeing booking proposals.

#### travel-related user feedback



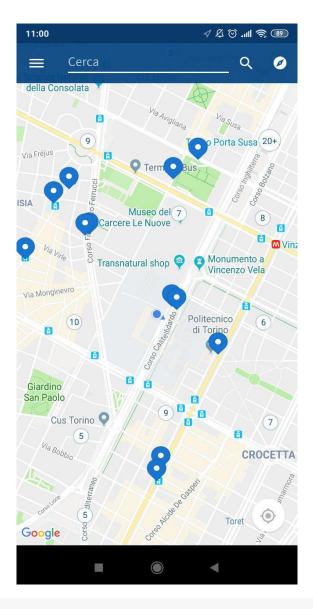
The mobile app is modern and good structured but there is an important aspect that is not implemented so good. If you want to search a particular typology of restaurant, is difficult put filters on the results. You have to navigate all the pages to find that particular kind of local and just in a second step you can mange filters, in a complicate screen. Usefulness: the app to want people want Learnability: It's easy the main functions but but in some case is not so easy Memorability: when you learn how to do is easier Effectiveness: not so good Efficienct: in those cases not so immediately Visibility: The system status is clear Errors: few and recoverable errors Satisfaction: Yes

#### time schedule of italian trains



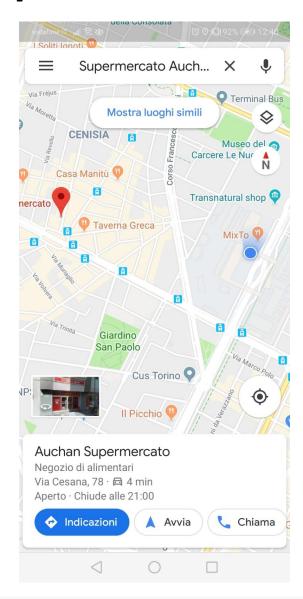
easy access to preferred routes, notifications on delays or strikes and possibility to buy tickets

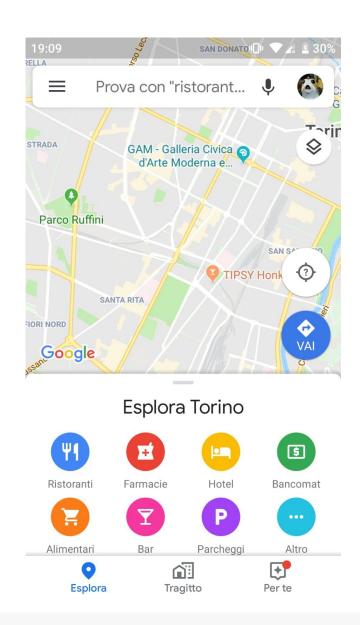
#### **Easy interface to track the busses or trams**



The main feature (map + bus stops + timetables) is the "homepage". Easy to use if you know how to use another widespread application as Google Maps. All other features are accessible directly.

#### Maps and directions



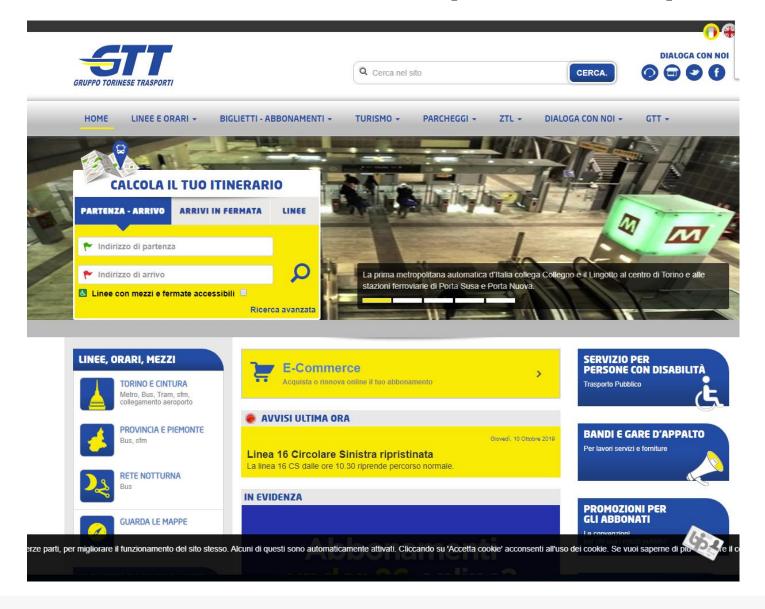


(1) The

The interface is good because it is intuitive: the user can select the destination and the direction, the position of the user is well defined, the user can see the direction looking at the visual range, the user can see the estimation time.

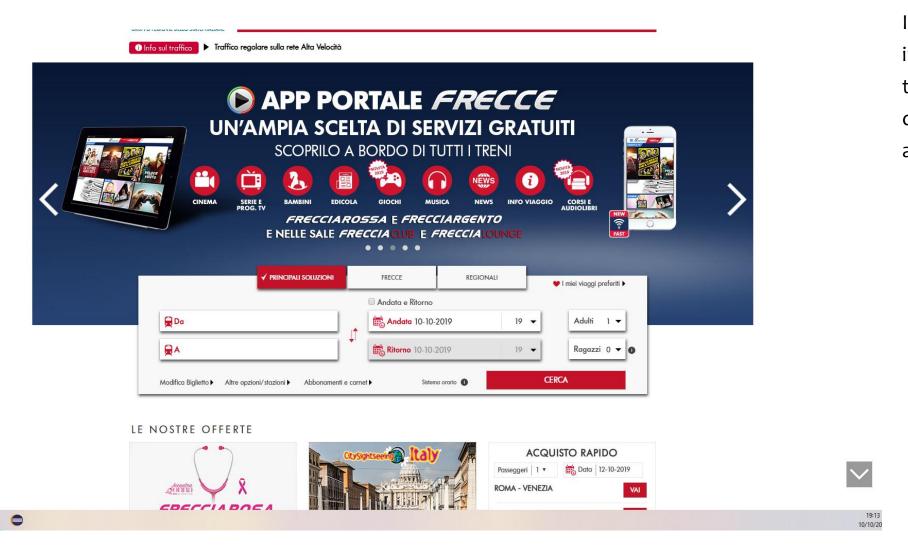
In a single page it is possible to select the category, or enter the address and in one or two passages the result is shown

#### time tables and news about public transport



-it is both useful and functional
-it is enjoyable to users
- the only con is that there is no login button on the home page and it is hard to guess where it is

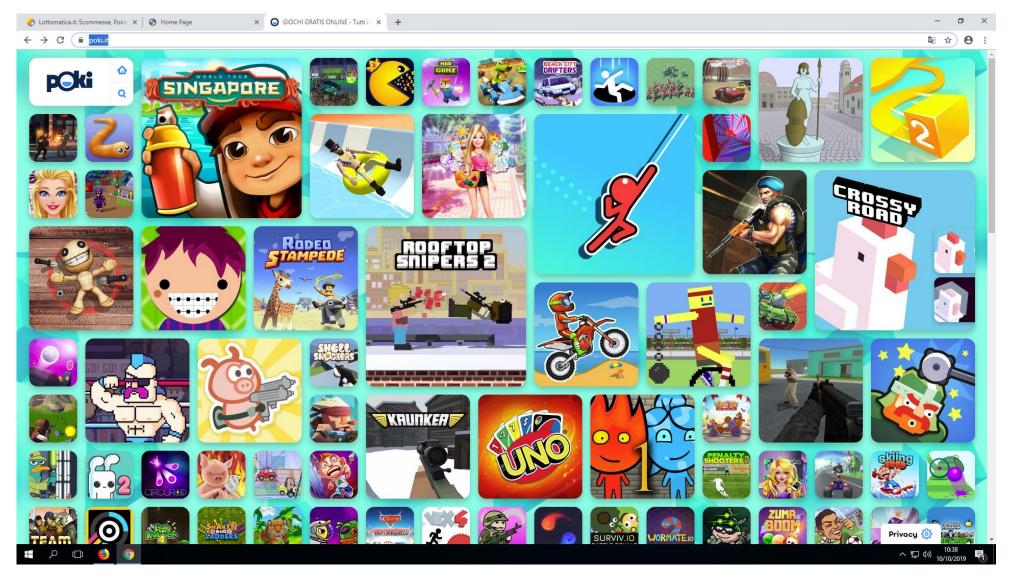
#### trains, timetables and prices



In few time is possible to insert minimal information to have all needed resuts quickly. Very easy to use for all purpose.

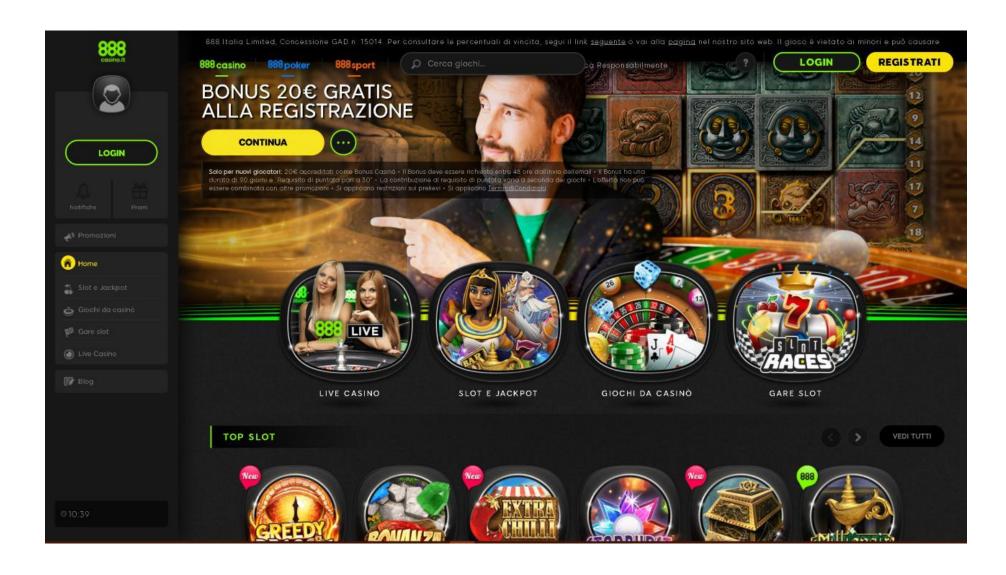
# Gaming

## Pallow the user to play small flash games



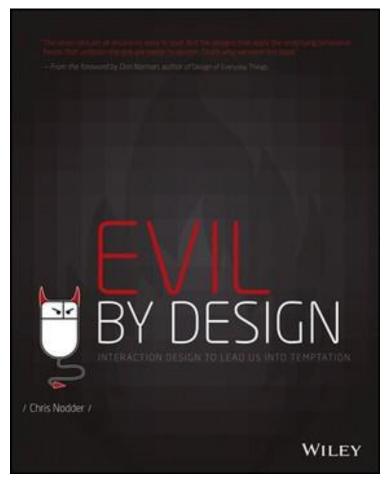
- . The homepage is just a grid of icons, there is a small menu in the corner (not too visible). The user don't know where to click if he wants to find a specific type of game. He has to scroll down to find categories but it is not so intuintive
- 2. It has a lot of elements on the display and it's very confusing.

#### Foffering online games to it's customers



very small fonts that are not readable / in some part texts are not readable because of low contrast of font color and background color / loading the website takes to long / there is some free space in top of first page that can be user to enlarge fonts to make them more readable

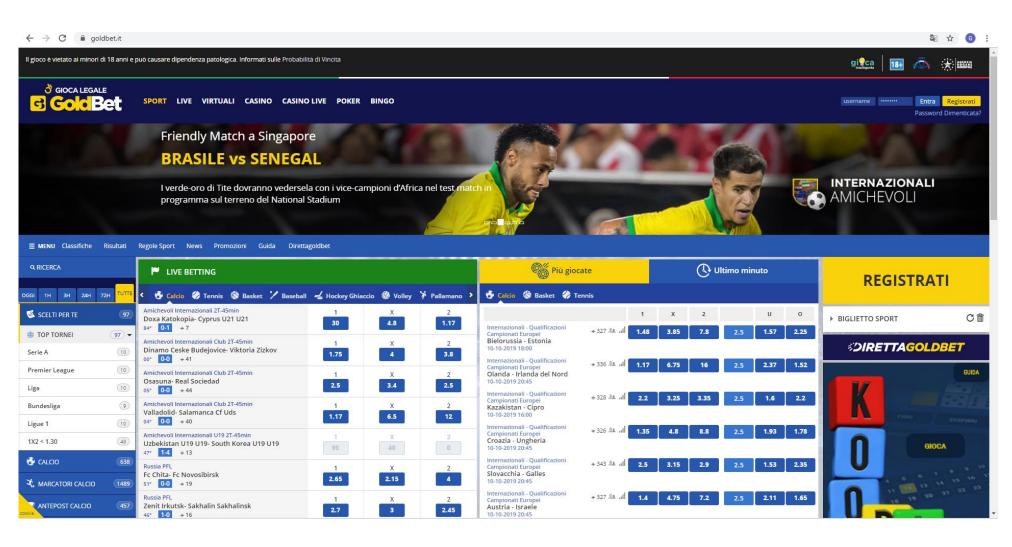
#### Interaction design the other way around...



Evil by Design: Interaction design to lead us into temptation by Chris Nodder, John Wiley & Sons, 2013, ISBN: 9781118654811

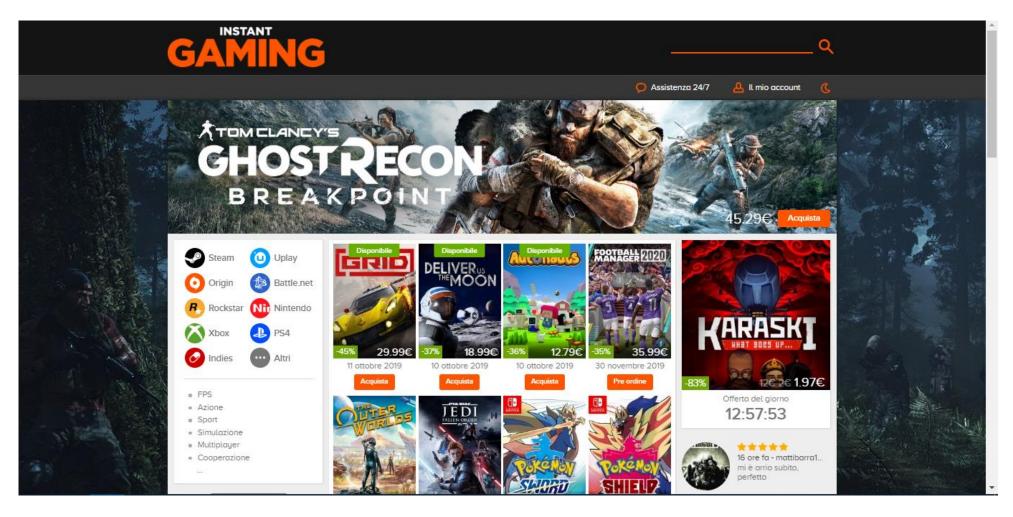
- Pride use social proof to position your product in line with your visitors' values
- Sloth build a path of least resistance that leads users where you want them to go
- Gluttony escalate customers' commitment and use loss aversion to keep them there
- Anger understand the power of metaphysical arguments and anonymity
- Envy create a culture of status around your product and feed aspirational desires
- Lust turn desire into commitment by using emotion to defeat rational behavior
- Greed keep customers engaged by reinforcing the behaviors you desire

#### website meant for who wants to bet



too small buttons, two
menus, research button
difficult to find, confusing
colours, it should be easier
to use in order to
encourage the users to bet
without losing time

# **d**videogaming



The user interface is very well organized, everything is very intuitive and easy to use. You can search for videogames on every platform very easily. The UI is very modern considering the target users. It offers istant searching and some cool features in the profile section.

# E-commerce

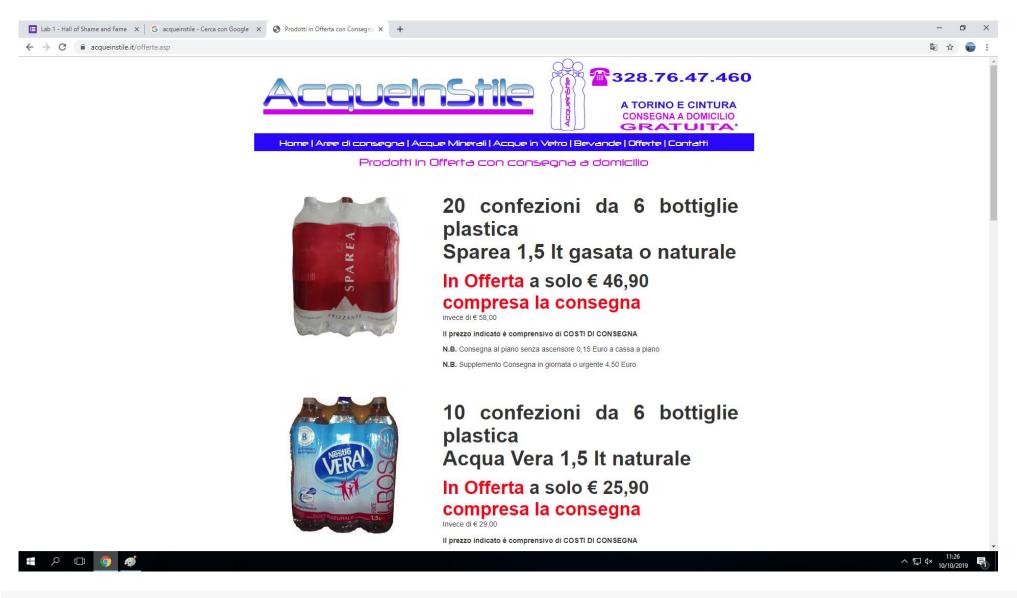


# The best we can tell, it's a car rental service



We tested it without audio, so there may be more. The purpose of the website is mainly a rental service, but there are too many useless informations, too many strange things that get printed on screen and it's full of animations. We start analyzing from the left: there are some basic infos, and then... "fun stuff"? Those are some games I'd be afraid to play: they might contain viruses. In the center we find a GIF of him chewing a bubble gum on a motorbike, and another GIF tells us that it's "brexit risk free!", so we can trust him. On the right side, we find today and last week deliveries, things a user doesn't really care about. Going down in the page, there are cars, on the right bar there is a lot of information about the staff being in the shop, the response times and other stuff that really is useless. When you scroll too much, you know there is not enough cars on the showcase, but there is a left bar that has a lot of cars that you can rent. The solution? An infinite-white scrolling window, used only for the left side to be fully shown. On the positive side, the website sure has personality.

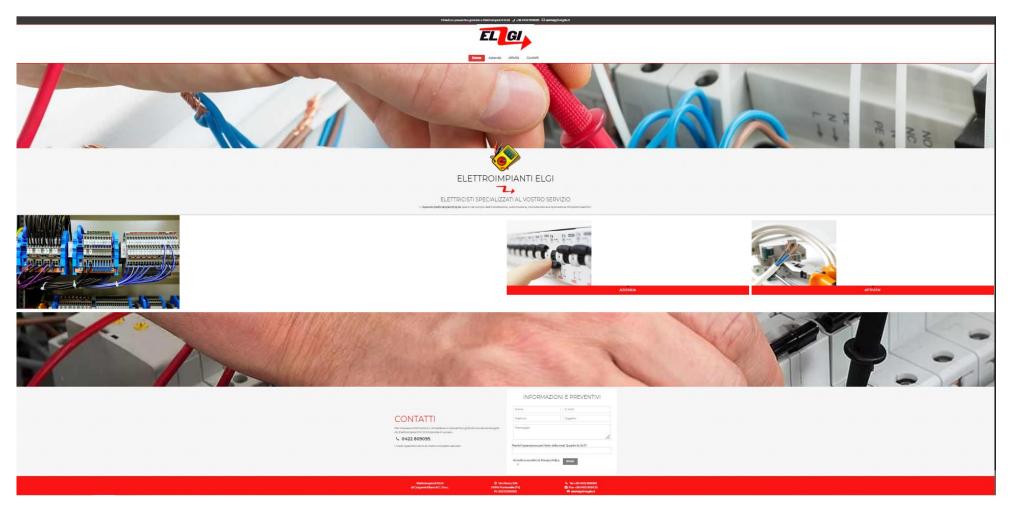
# Show products and allow bookings



Blinding colors, too many different fonts and text sizes, many N.B.s, some images with background and some without.

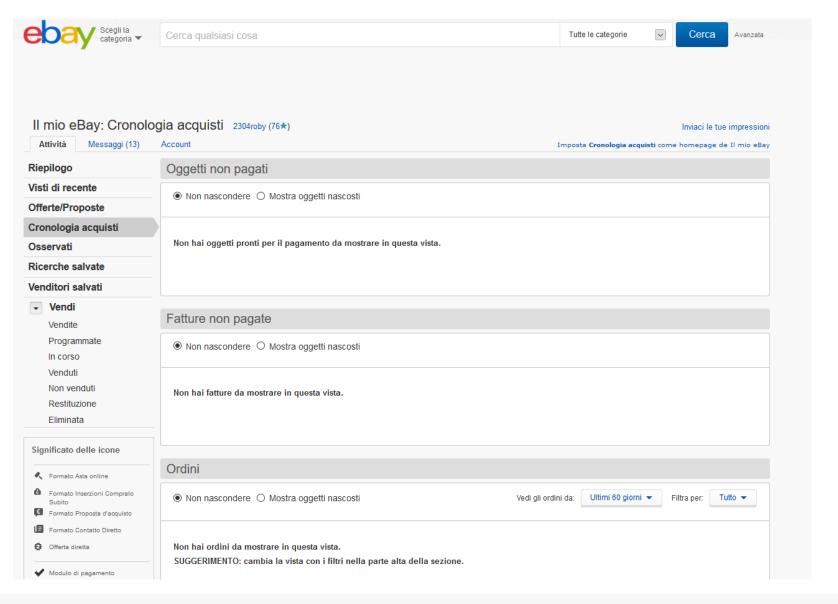


#### Provide estimations for electrical installations



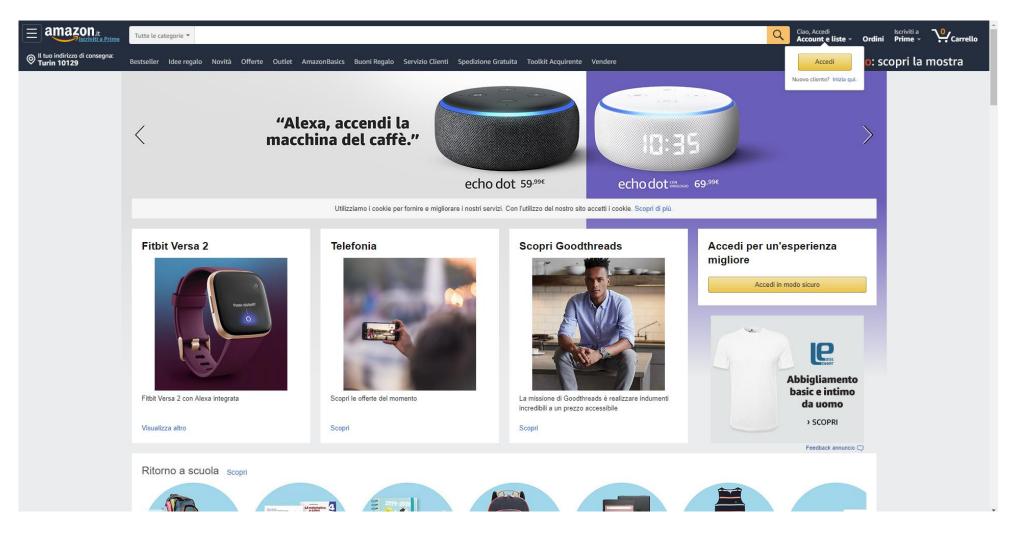
The purpose of the application is the estimate, but the form to request it is hidden in the last part of the page, many dynamic images that create confusion.





Usefulness: yes, but in not immediate way Learnability: is not easy to use for a seller Memorability: it is easy to remember Effectiveness: not always it allow reach the goal, for example search some info about the buyer Efficiency: is not fast to use Visibility: the visibility is not developed so well Errors: the errors are few Satisfaction: the use is not so satisfactory

# **E-commerce to buy all kind of things**



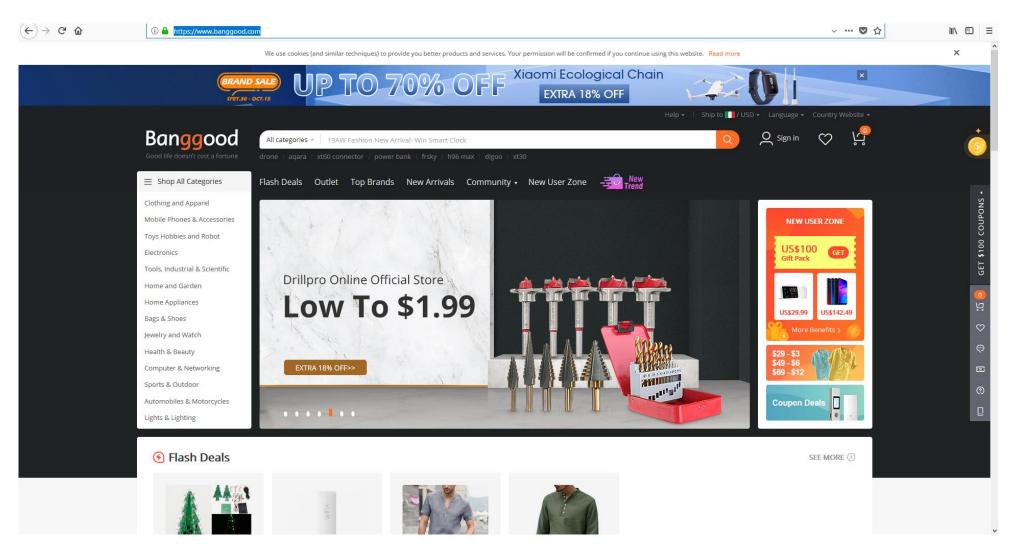
It has a very simple and intuitive interface.

# shipping services for ordinary goods



- (1)
- minimalist and intuitive for all users
- -pleasant look and colors
- (2)
  Well designed interface for showing its market proposal

# selling almost everykind of object



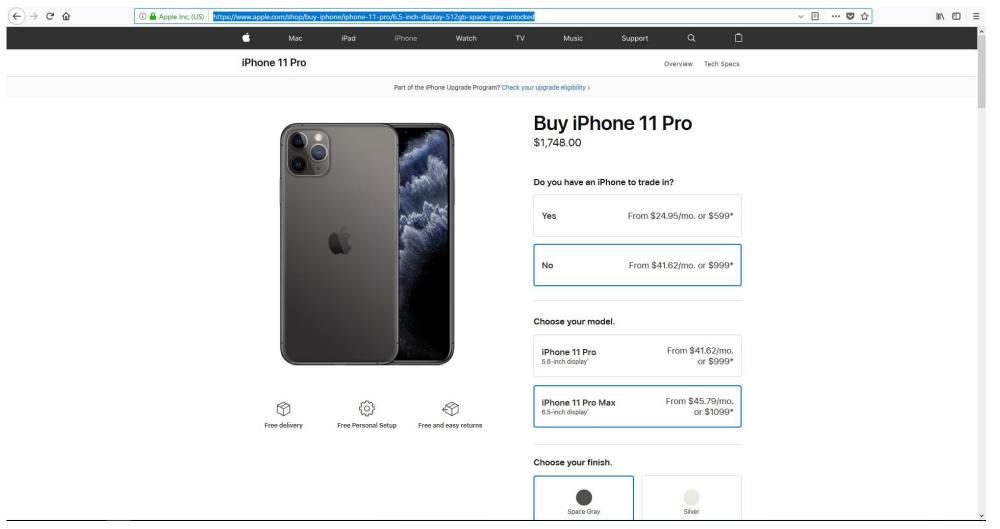
I thik it's good because it shows immediately in the home page everything needed by the user. A coupon for new users, a search bar big and in the center, discount objects, and categories, as well as login and register form, simply perfect and immediate.

#### information and sales about coffee



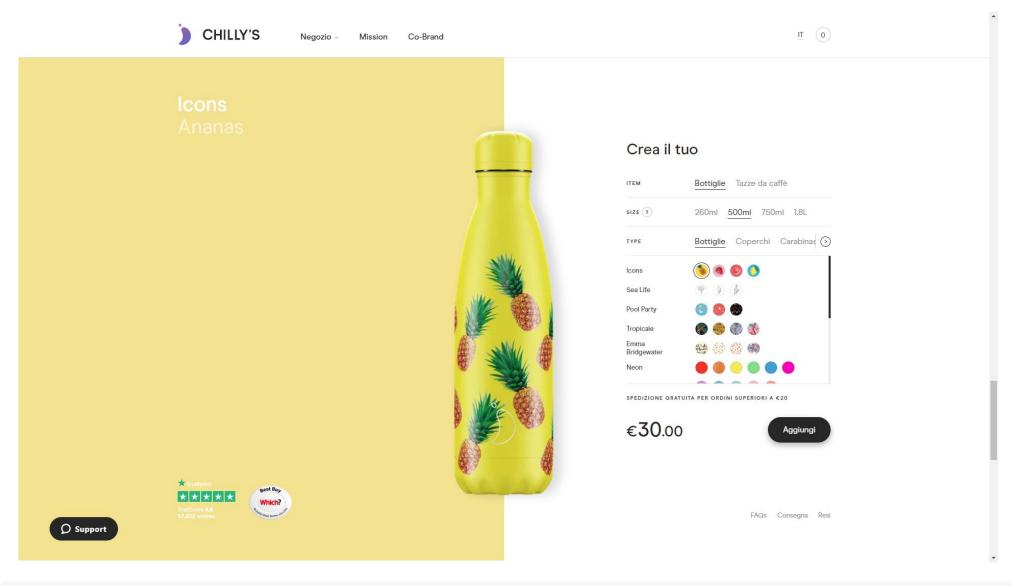
It's a good website because offers in the top bar all the services needed by the users. Infos about bars, machines, containers, and the e-shop well marked with a different color ( Marked in red ), and immediately visible. All others informations shown in the webpage are below, not important and just as added features. What makes this website good is the position of important items directly in the top part of page, and less useful ones in the bottom.

#### Buy the Apple iPhone 11 Pro



The page is minimal in its aspect, focusing on its core. The menu has as few info as it can, and it "tells a story" about the product, letting you select the iPhone you want in an intuitive way: it's like telling how you want it to the guy behind the desk in a shop. The choices are mandatory following a flow that feels natural during the selection of the features.

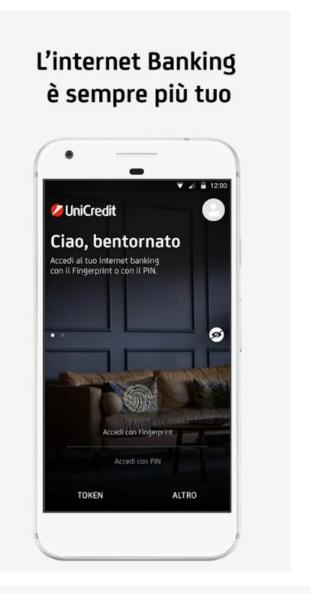
#### Buy bottles and customize them



Pretty design. Simple. The main character, that is the bottle, is centered and much visible and emphasized. The customization part is very intuitive.

# Money

#### **\$\bigcite{\Pi}\$** deal and review your transactions



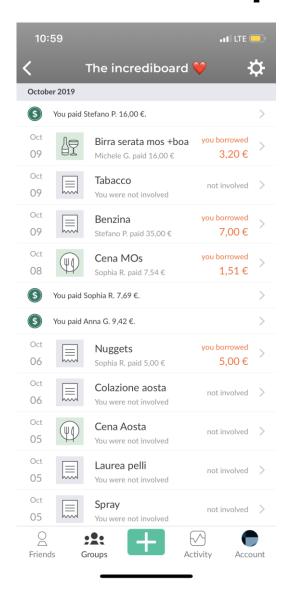
Interface does not support English language. it has following features: o Usefulness: people need it. o Learnability: it is not very easy to learn. o Memorability: one learned it is easy to remember. o Effectiveness: Goal is to deal with your transactions. o Efficiency: once learned it is fast to use. o Visibility: the state of the system is not very visible. o Errors: few and recoverable errors. o Satisfaction: people dont enjoy but they have to use it.

#### Help the user to handle monthly payments



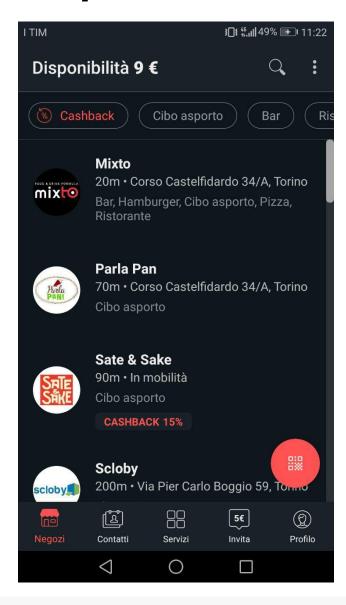
You are able to use it without any tutorial (very intuitive), colorful icons and labels, always find buttons where expected

#### track bills and other shared expenses



it's easy to use, explicative colours and icons, once you have learnt how to use it you don't forget it

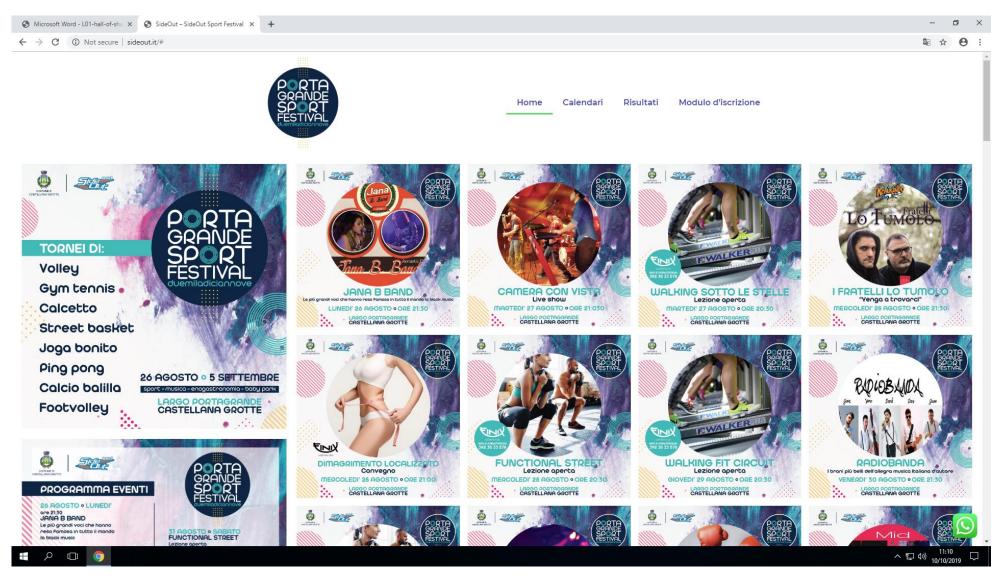
#### pay just with smartphone



It is a very immediate interface: you just open the app and you can choose the shop where you have to pay based on your actual position. The sections are well structured and every feature is easy to use and very comprehensible

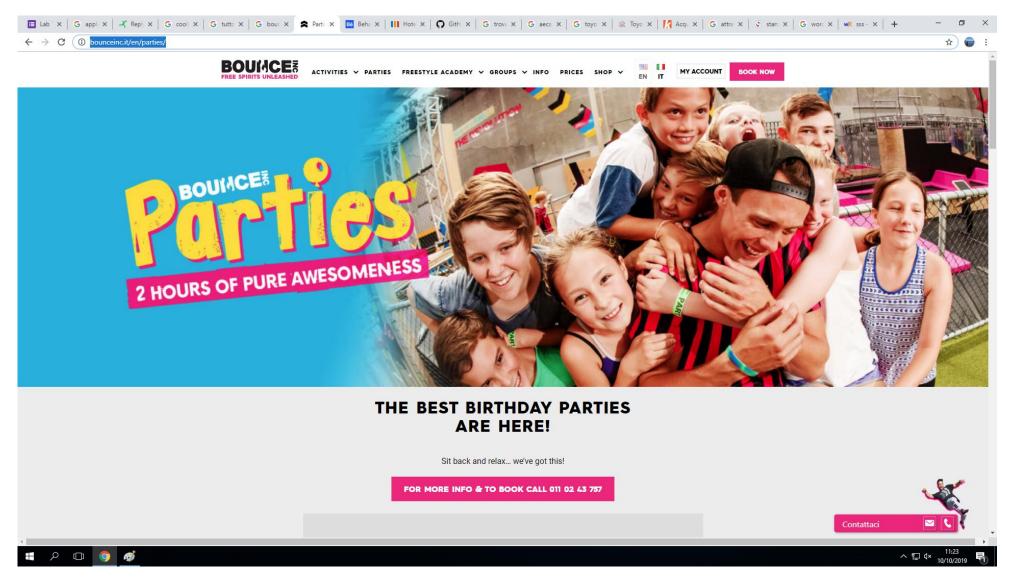
## Fun and entertainment

#### give information about a local festival



We think that is a bad interface because in the home page there are too many images and the user doesn't know what are the important events of the day. A particularly thing is the fact that the upper buttons don't work and clicking an event image has the only effect of zooming the image itself instead of giving more specific information about that

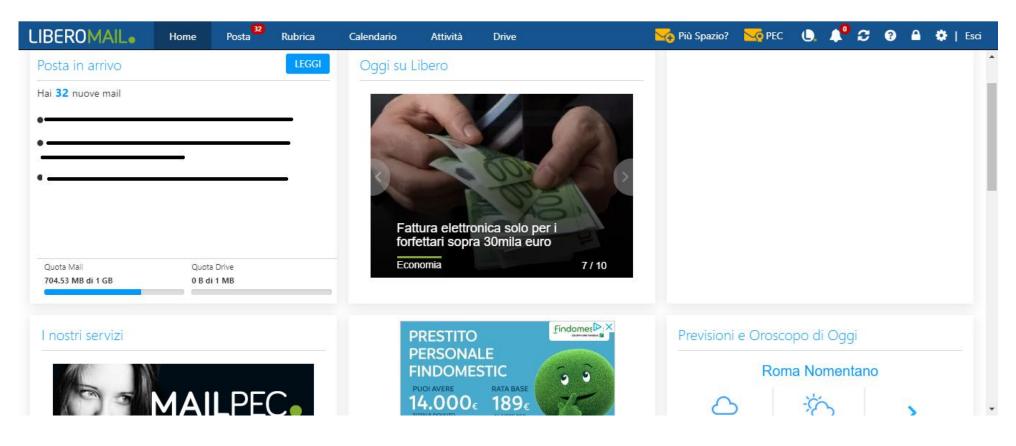
#### **Show the park attractions and allow bookings.**



Neat with all options at the top and good division of topics on every page, with booking allowed at the bottom after a good explanation.

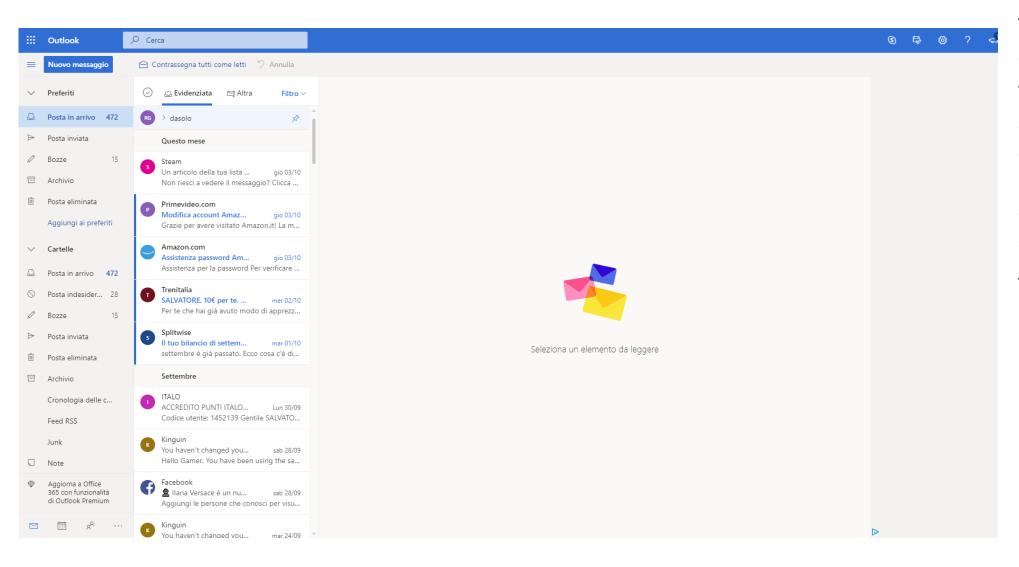
# Communication and Collaboration





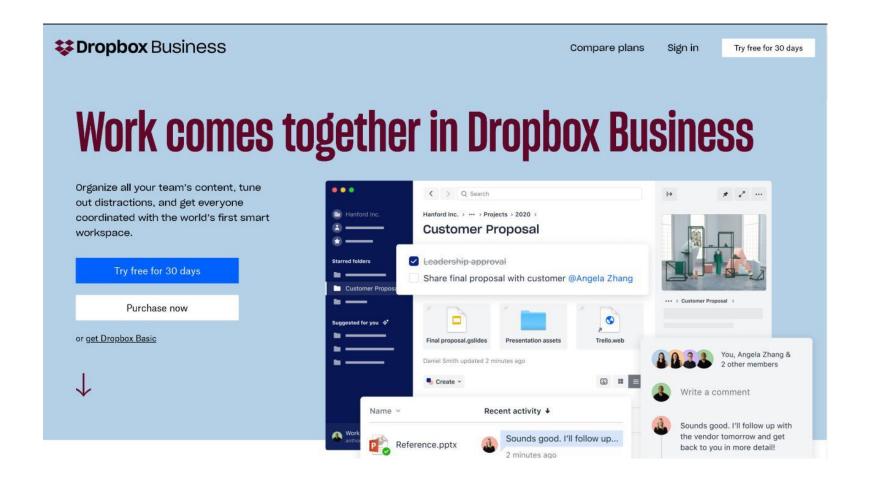
The homepage is not about emails. More than half of it is occupied by commercial ads or other unrequested informations/features.

### F Email system



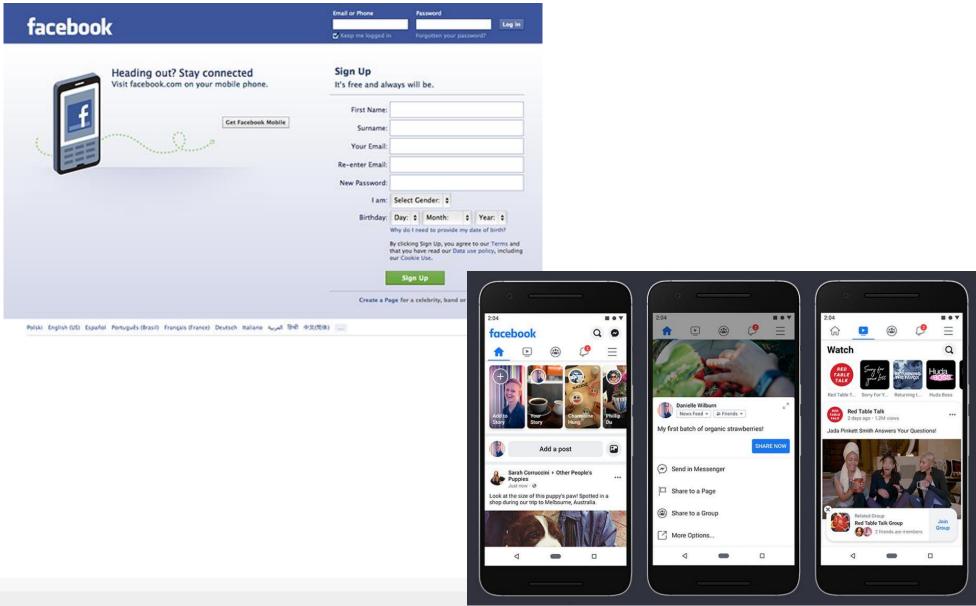
The site has a central space dedicated to the preview that is initially unused. the space dedicated to the email title is often insufficient and cannot be read. Icons often have reduced or insufficient functionality (eg delete).

#### foffering online workspace



The first shot of website gives enough information about their business / Texts are readable/ navigation is simple / blue background give the feeling of truthiness

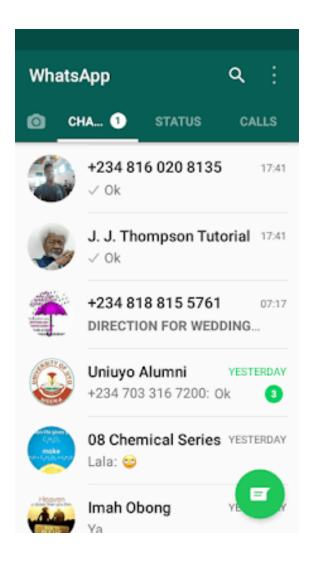
#### **Connect** people all around the world



(1)
The interface is really good. it has following features: o Usefulness: its not something people need but they want it. o Learnability: it is easy to learn. o Memorability: one learned it is easy to remember. o Effectiveness: There is not any major goal. o Efficiency: once learned it is fast to use. o Visibility: the state of the system is visible. o Errors: very few and recoverable errors. o Satisfaction: people enjoy using facebook.

I think that the mobile app has a good interface, easy and immediate. There is not a specific goal to reach in this app, but the people want use it very often during the day (Usefulness & Memorability). It's easy to learn, you need few tap on screen to do everything (Learnability). Evey task you want to do is easy to reach (Effectiveness & Efficiency). Every interaction with the app is notify clearly (Visibility). The errors are very few and the system try to recover that in automatic way (Errors). The satisfaction is vary much

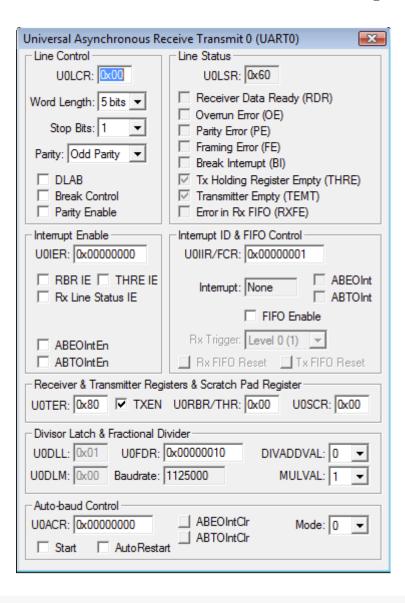
#### **A**chatting



The design is a simple list based on the Material design. It has few buttons, using intuitive icons in "natural" positions (search button is on the top-right, the "new chat" button is floating in the bottom-right side). Notifications "scream" to your eyes, telling you that a particular chat has updates to be looked at. Each chat has the name and the last message shown as a preview, with its date on the right; this enforces clarity and focus on the content more than on the application itself by the user. Tabs are self-explainatory, easy to navigate.

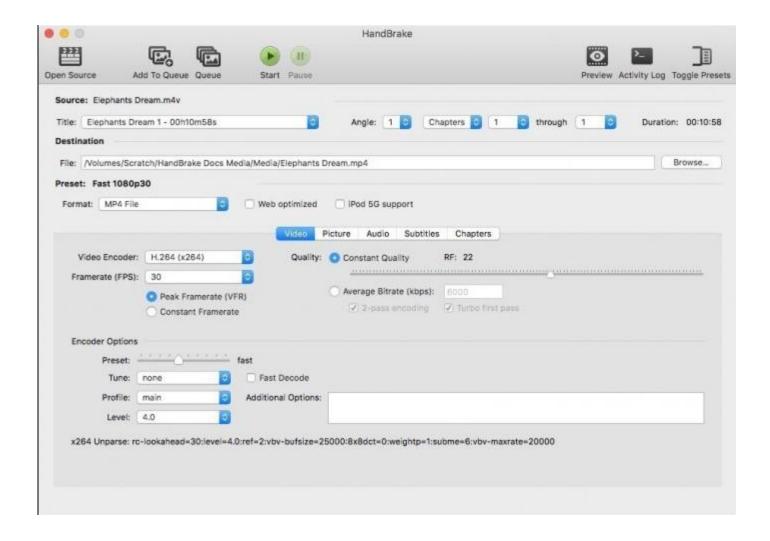
## **System Utilities**

#### Setting parameters for hardware pheriferals



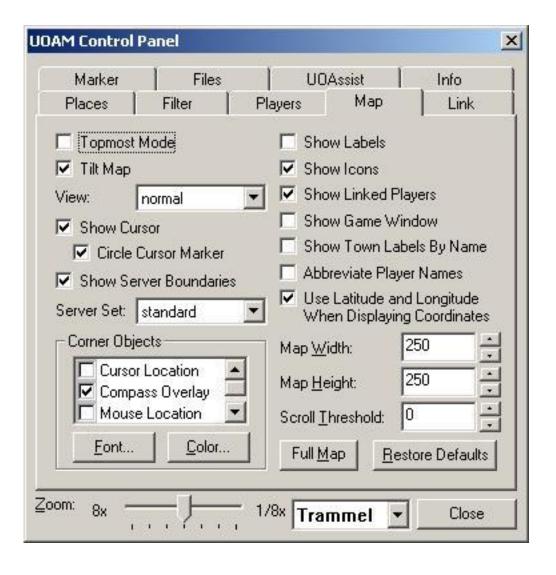
We think that is a bad interface because it's full of possible choices and it's very confusing because it's not specified if some of them are mutual exclusive or not

#### **Convert audio and video files into other formats**



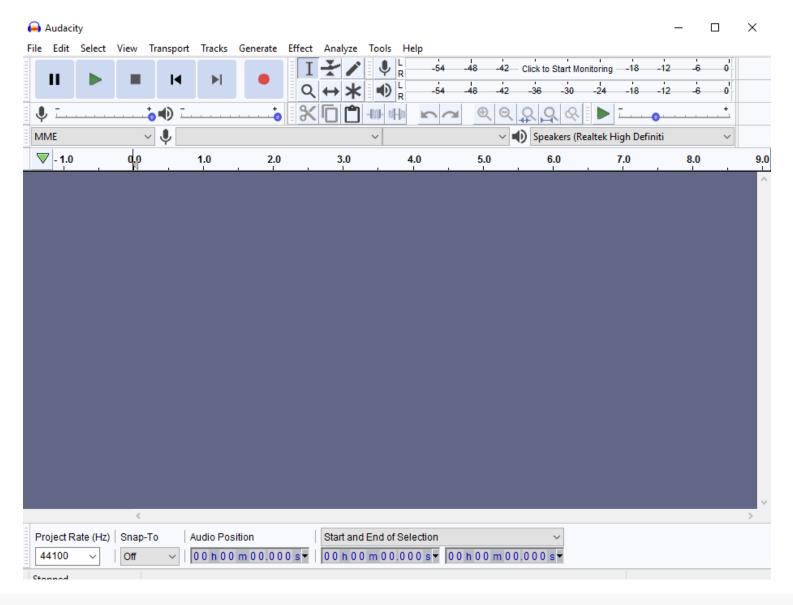
Too many radio buttons, checkboxes and sliders; too much information shown but typical user will usually use basic functionalities

#### **Pretrogaming remapper**



In the interface there are too much buttons, checkbox, tab and drop down menu. The user can be confusing by the high number of choices in a small space. The string are not explicit and commands are not simple to use.

#### manage audio file, recording, playing



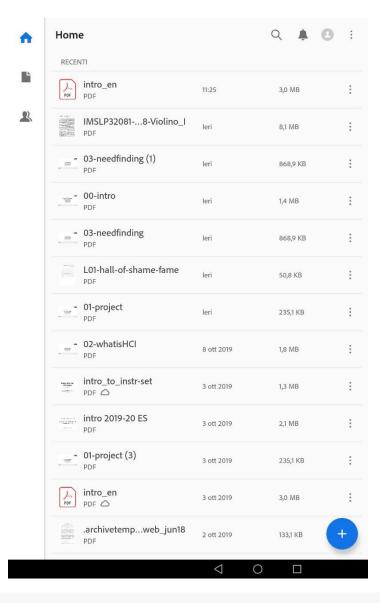
What is wrong with this interface is the upper bar that has really many function with their own symbol over the button with no explanation: the meaning of the button is shown in the bottom of the interface, in a really small text. Unless the user is really expert, it really difficult to get started using it.

#### **Monitoring many GPU parameters**



Despite the great variety of services offered, it's very difficult to understand where to find them. When you hover the cursor on any element of the interface, a big info baloon pops up and makes everything even more confusing





the application only
provides easy access to files
previously opened with a
file manager and relies on
an external one in order to
search for a new file

#### Let users know their IP address







the interface is really good because as soon as the user open the site, he's IP address is highlighted and written with a big font that jump to the eye immediately. A really good element in my opinion is also the copy button to copy the ip address.

"il mio ip" è realizzato e offerto da innerweb.it

portali web, applicazioni mobile, software on-demand e consulenza seo.

VISITA IL SITO

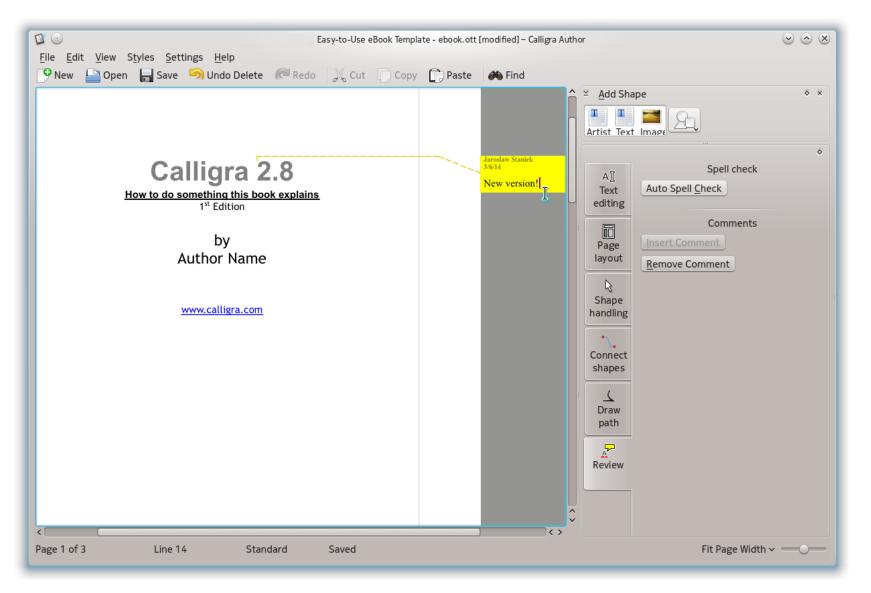
#### Prova "farti trovare".

La nostra soluzione software per "farti trovare".

Nome: *	
Cognome: *	
Email: *	
Macagaia. *	

# Office and productivity

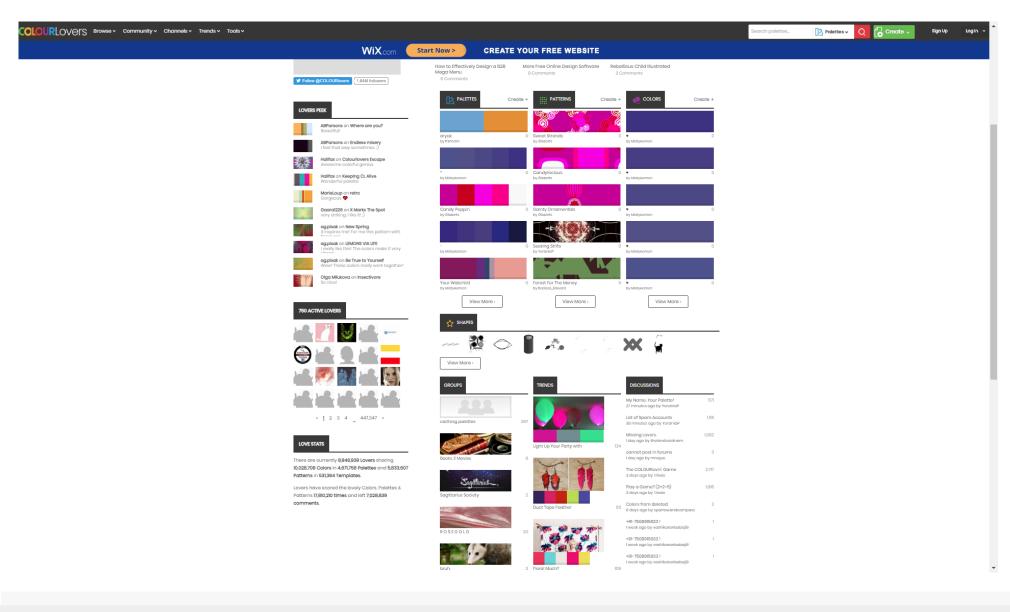
#### writing documents



The sidebar surely looks innovative, but it's not userfriendly at all: it raises questions. Why is there an "Add shape" on the side? What happens if I delete it, where can I click to have it back? There is a lot of space in the toolbar over the document view, wasted by redundant comments on icon and the cut/copy/paste, why isn't there the font selection instead? And why putting the buttons for copy-pasting, when today the key combination is well-known (other than putting them in a contextual menu)? Positive note: the footer is minimal and meaningful.



#### **Use States** Look for palettes, colors, patterns



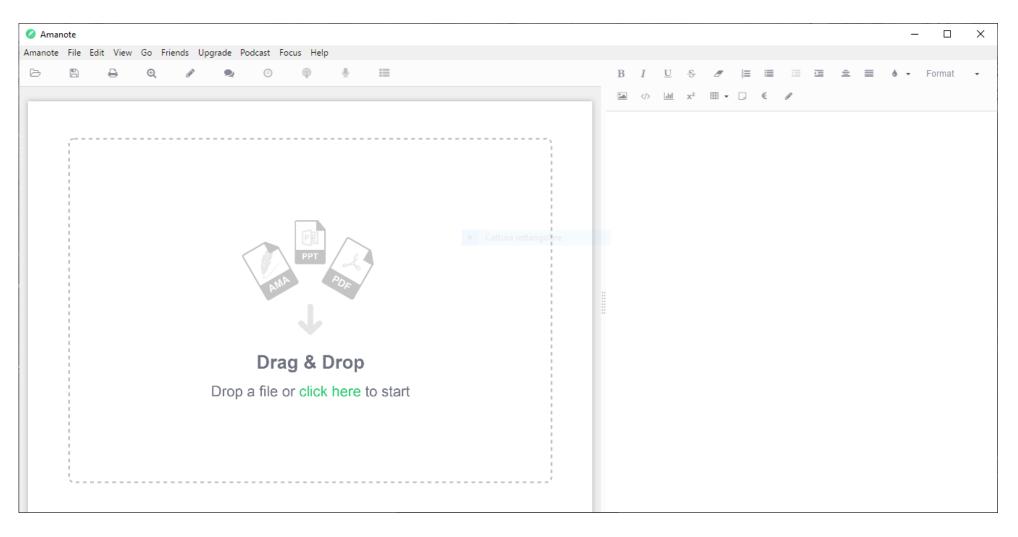
Homepage is a mix of different panel, the main part (colors, palettes, patterns) is not highlighted. The average user is lost when he lands on this page. Too many details.

#### Translator



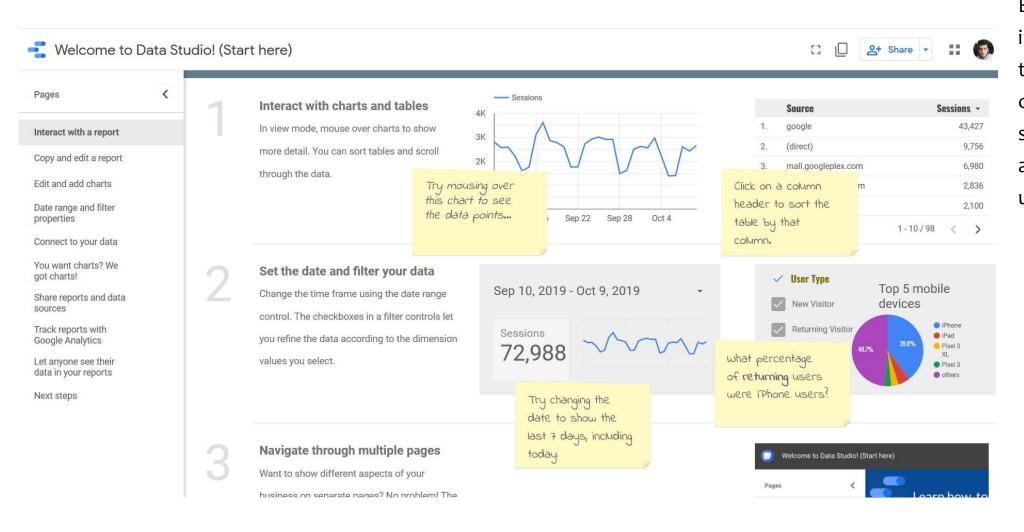
Intuitive. Easy to switch languages.

#### Taking notes on files in an easy and intuitive way.



All the main operation that one can need both on the original file or on the note are easy accessible and comprehensible.

#### easy to use tools to analyse big data



Even if the site offers not so intuitive tools, it shows them in a very attractive, colorful and clear way, showing interactive boxes and icons that guide the user through the site

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