

# **SMERNICE ZA KREIRANJE INTERFEJSA**

# Heuristike

- Veliki broj različitih predloga
- Pomažu dizajnerima pri izboru alternativa
- Pomažu pri evaluaciji dizajna

# Heuristike

- Nielsen-ovih 10 principa
- Normanova pravila
- Shneiderman-ovih 8 zlatnih pravila
- Tognazzini-jevih 16 principa

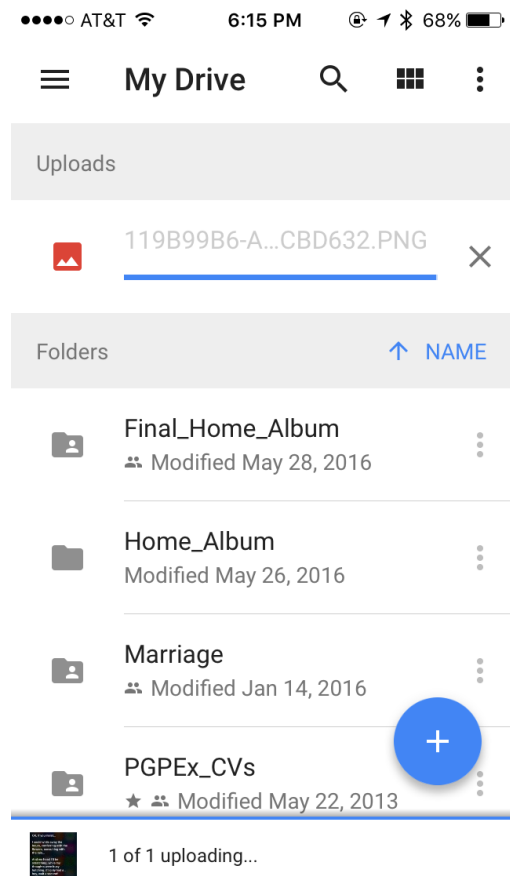
# Nielsenove heuristike -1

- **1) Jasno naznačeno trenutno stanje sistema (Visibility of system status)**
- Sistem bi trebalo da uvek obaveštava korisnike o trenutnom stanju i akcijama korišćenjem vizuelnih signala i povratnih informacije u razumnom vremenskom roku



# Nielsenove heuristike -1

- **Visibility of system status**



# Nielsenove heuristike -1

- **Visibility of system status**

*The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.*

| United Airlines Flight 410          |          |      |
|-------------------------------------|----------|------|
| On-time - departs in 1 hour 41 mins |          |      |
| PDX → DEN                           |          |      |
| Departs Portland, today             |          |      |
| Time                                | Terminal | Gate |
| 11:48 AM                            | -        | E2   |
| Arrives Denver, today               |          |      |
| Scheduled 3:18 PM                   | Terminal | Gate |
| 3:17 PM                             | -        | B27  |

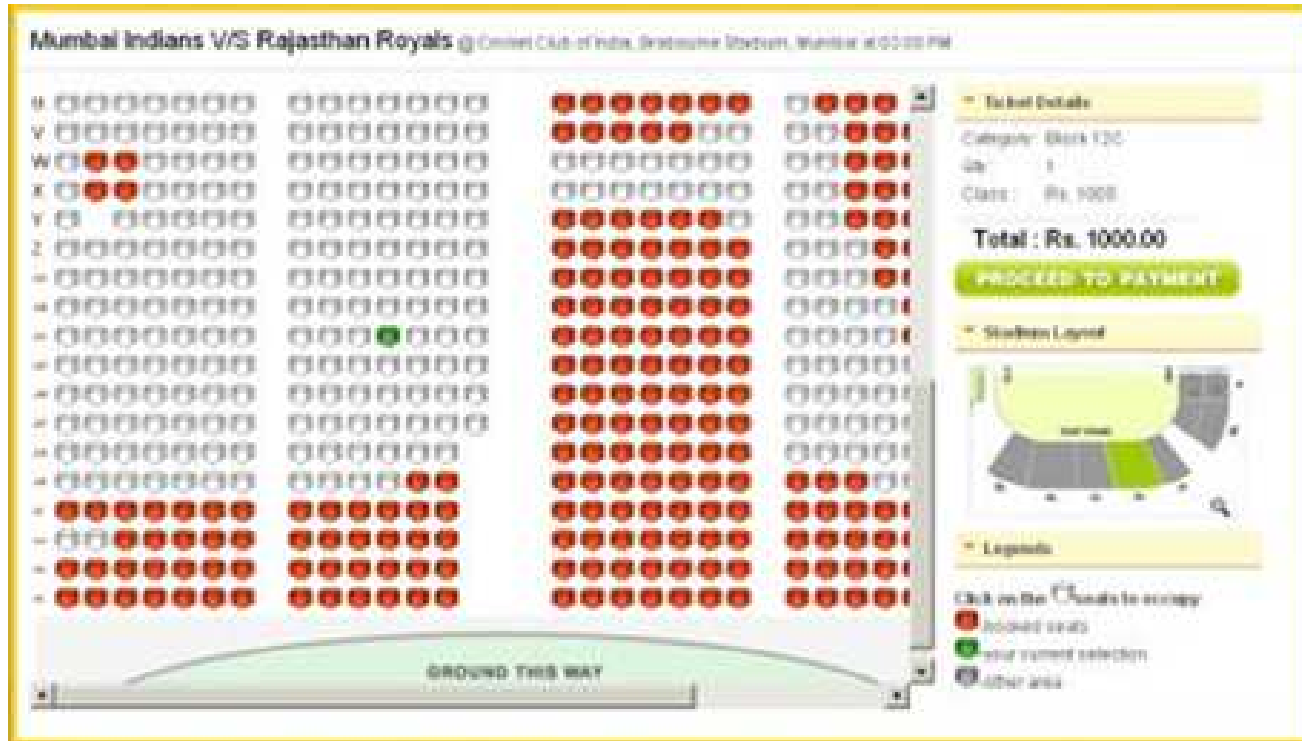
  

| United Airlines Flight 410           |          |      |
|--------------------------------------|----------|------|
| Delayed 21 mins - arrives in 57 mins |          |      |
| PDX → DEN                            |          |      |
| Departs Portland, today              |          |      |
| Scheduled 11:48 AM                   | Terminal | Gate |
| 11:49 AM                             | -        | E2   |
| Arrives Denver, today                |          |      |
| Scheduled 3:18 PM                    | Terminal | Gate |
| 3:39 PM                              | -        | B27  |



# Nielsenove heuristike -1

- **Visibility of system status**



# Nielsenove heuristike -2

- **2) Softver mora da odgovara realnom svetu (Match between system and the real world)**
- Sistem bi trebalo da govori jezikom korisnicima
- Da koristi reči, fraze i koncepte koji su poznati korisniku, a ne koji su sistemu poznati
- Najbolje je pratiti konvencije realnog sveta, i informacije prikazivati u prirodnom i logičkom redu.



# Nielsenove heuristike -2

- Match between system and the real world



# Nielsenove heuristike -2

- Match between system and the real world



# Nielsenove heuristike -2

- Match between system and the real world

A screenshot of a web browser displaying a landing page for a webinar. The browser's address bar shows 'neilpatel.com'. The page features a large image of Neil Patel on the left. To the right, the text reads: 'NEILPATEL The ADVANCED Customer Acquisition Webinar'. Below this, a headline states: 'How to generate 195,013 visitors a month without spending a dollar on ads'. A 'FREE BONUS' section mentions 'The 24-step framework I use to teach marketing'. At the bottom, there is a prominent orange button with the text 'YES, I WANT NEIL TO TEACH ME HOW TO GROW MY BUSINESS!'.

# Nielsenove heuristike -2

- Match between system and the real world

**How can we help you?**

🔍 Search help

**Live Updates**

**Delayed Response from Customer Care**

We're really busy at the moment which means it may take a little longer than usual to get back to you. [More info](#)

# Nielsenove heuristike -3

- **3) Sloboda korisnika (User control and freedom)**
- Korisnici često greškom biraju neke opcije i kontrole i potrebno im je jasno naznačiti povratak
- Jasno da bude naznačen “emergency exit” umesto da korisnici prolaze kroz nepotrebne prozore i akcije
- Uvek dati podršku za undo i redo

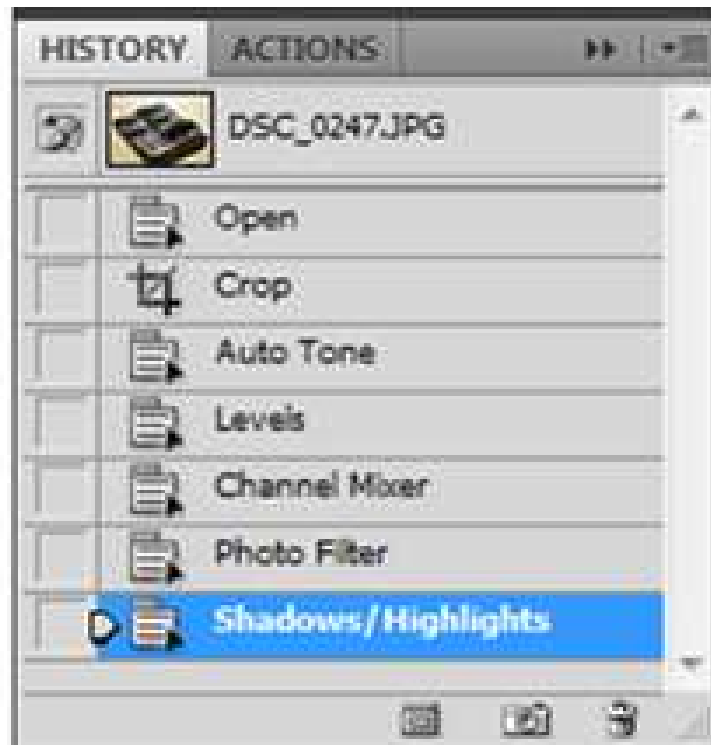
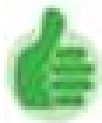
# Nielsenove heuristike -3

- User control and freedom



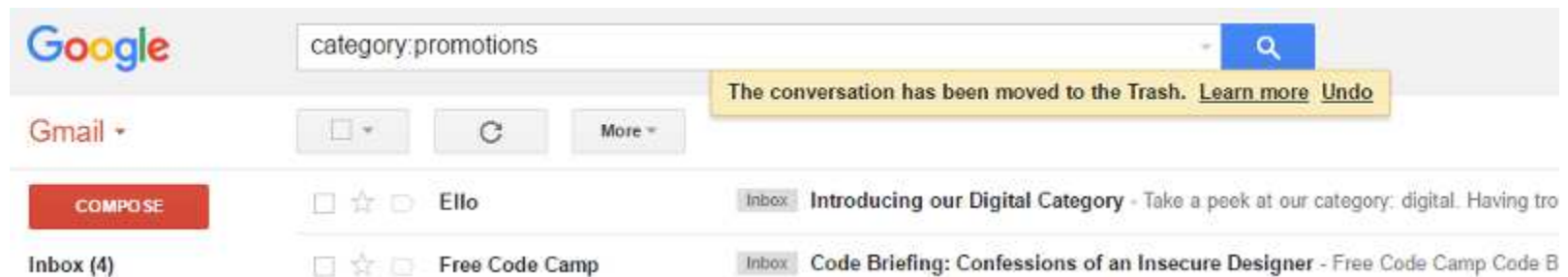
# Nielsenove heuristike -3

- **User control and freedom**
- Istorija u Photoshop-u pomaže korisnicima da se vrate na neki predhodni korak



# Nielsenove heuristike -3

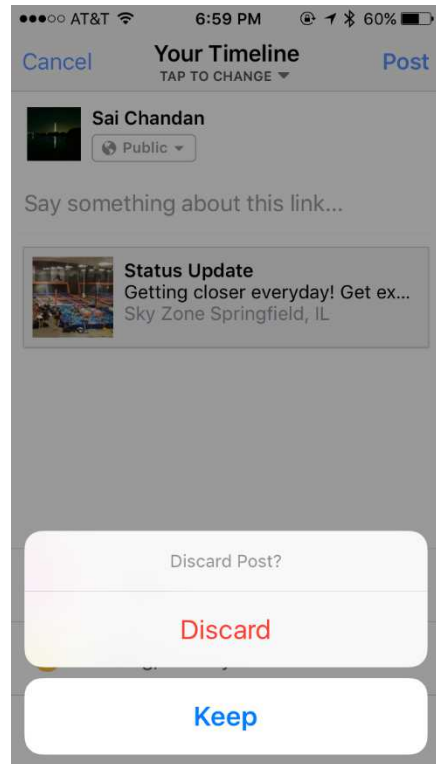
- **User control and freedom**
- Ako smo slučajno obrisali email





# Nielsenove heuristike -3

- **User control and freedom**



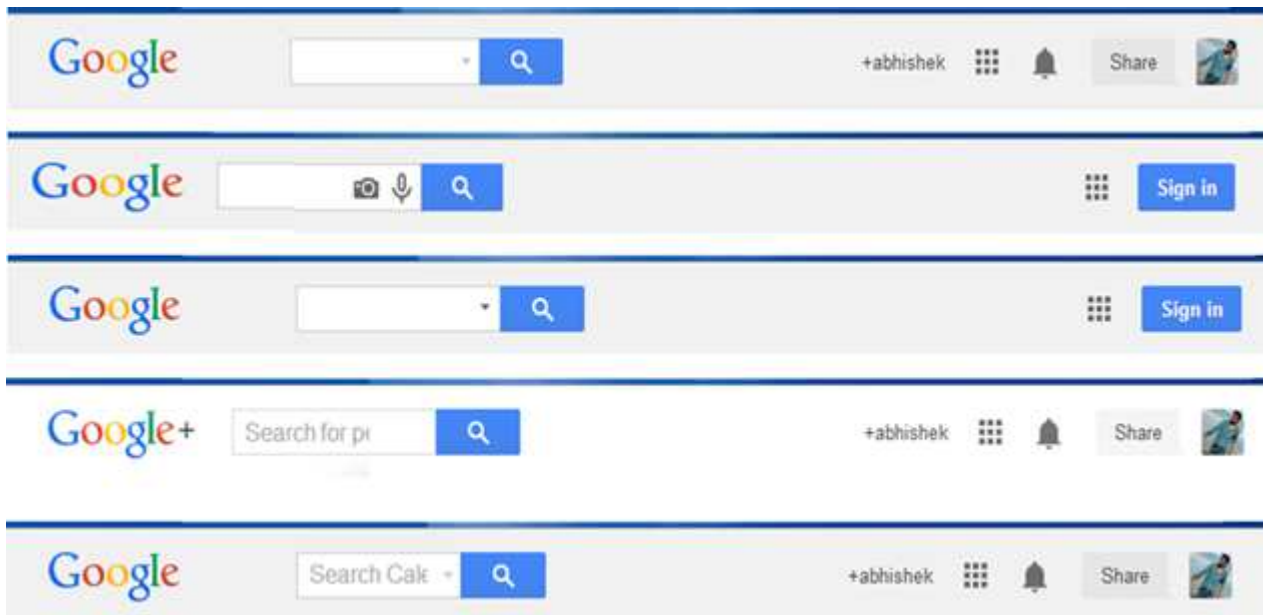
# Nielsenove heuristike -3

- **User control and freedom**



# Nielsenove heuristike -4

- **4) Konzistencija (Consistency and standards)**
- Korisnik ne treba da brine da li različite reči, situacije ili ikone znače istu stvar



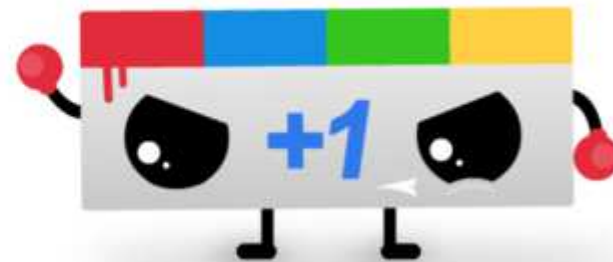
# Nielsenove heuristike -4

- **4) Consistency and standards**
- Korisnik ne treba da brine da li različite reči, situacije ili ikone znače istu stvar



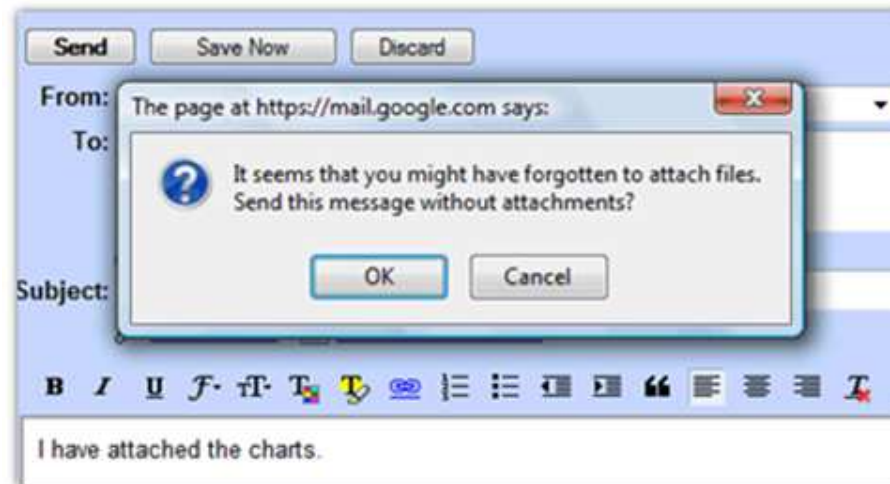
# Nielsenove heuristike -4

- **Consistency and standards**
- Korisnik ne treba da brine da li različite reči, situacije ili ikone znače istu stvar



# Nielsenove heuristike - 5

- **5) Prevencija greške (Error prevention)**
- Bolje od dobre poruke o grešci je pažljiv dizajn koji sprečava da se problem dogodi
- Ili eliminisati greške ili proveriti sa korisnikom pre nego što se pređe u akciju



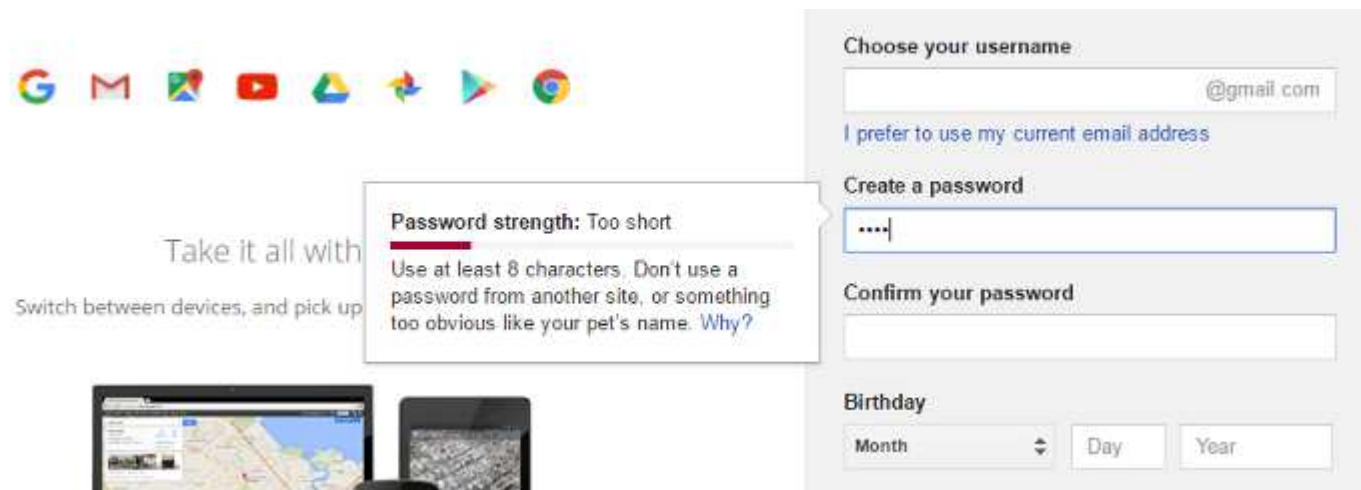
# Nielsenove heuristike - 5

- Error prevention



# Nielsenove heuristike - 5

- **Error prevention**
- Bolje validacija u toku akcije nego kad se klikne submit





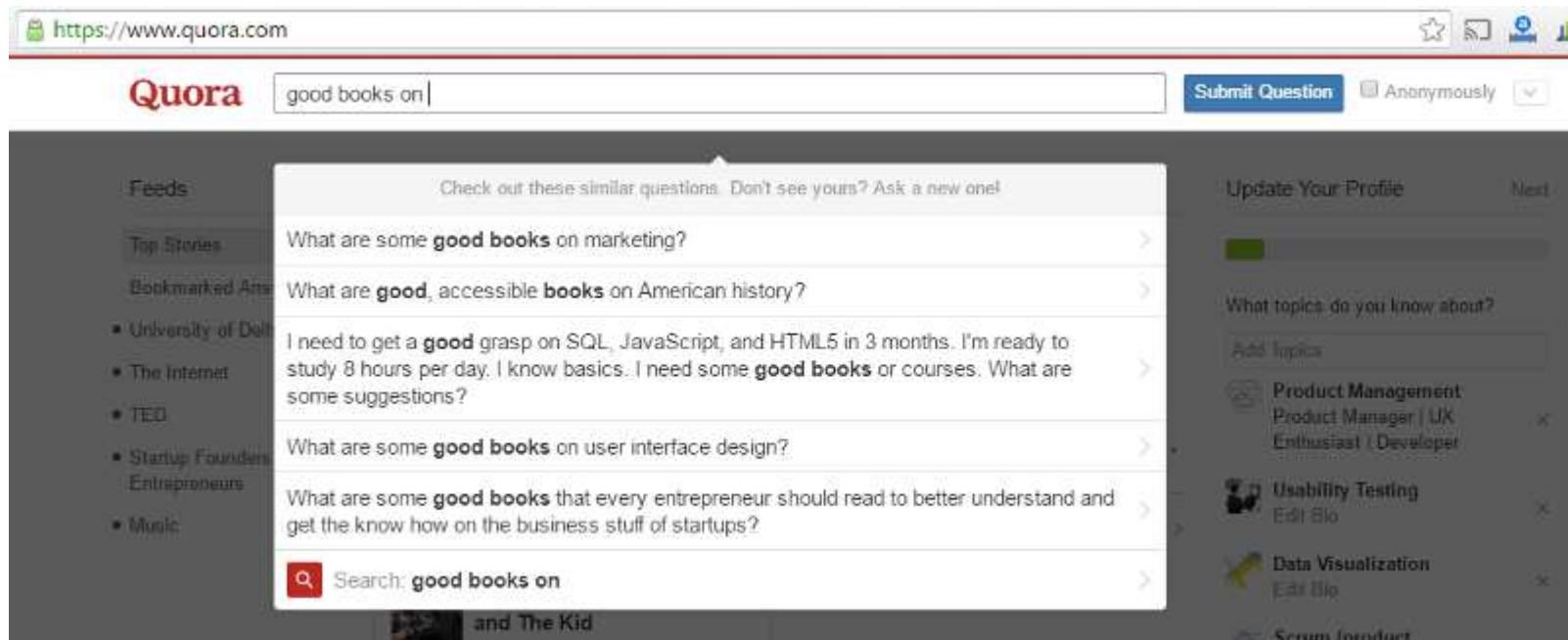
# Nielsenove heuristike - 6

- **6) Minimizovati rad sa memorijom (Recognition rather than recall)**
- Uvek je bolje predložiti korisniku niz opcija nego da pamti celu stvar
- Cilj je da se smanji korisnička memorija



# Nielsenove heuristike - 6

- Recognition rather than recall

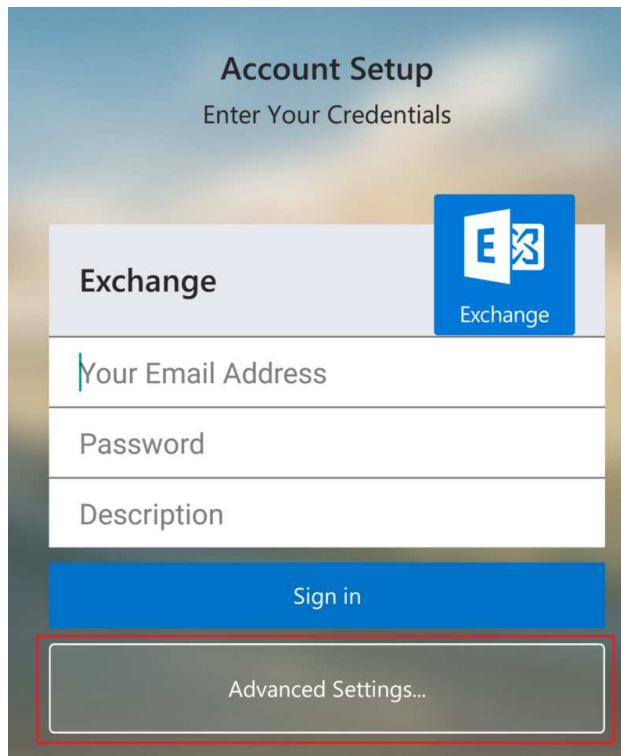


# Nielsenove heuristike - 7


- **7) Fleksibilnost i efikasnost (Flexibility and Efficiency of use)**
- Interfejs treba da je dovoljno prilagodljiv da mogu da ga koriste i korisnici sa iskustvom i novi korisnici
- Npr. prilikom instalacije upit da li korisnik želi *default* ili *custom* instalaciju

# Nielsenove heuristike - 7

- **Flexibility and Efficiency of use**
- Npr. Exchange na Androidu skriva kompleksne funkcionalnost pod Advanced



Account Setup  
Enter Your Credentials

Exchange  Exchange

Your Email Address

Password

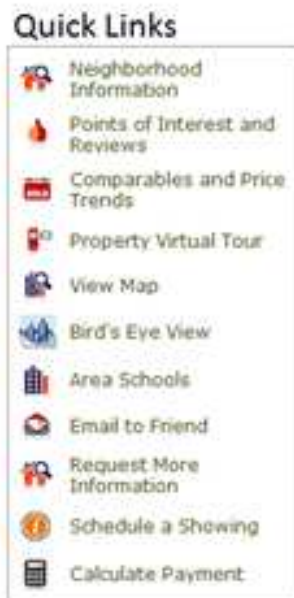
Description

Sign in

Advanced Settings...

# Nielsenove heuristike - 7

- **Flexibility and Efficiency of use**
- Npr. Exchange na Androidu skriva kompleksne funkcionalnost pod Advanced



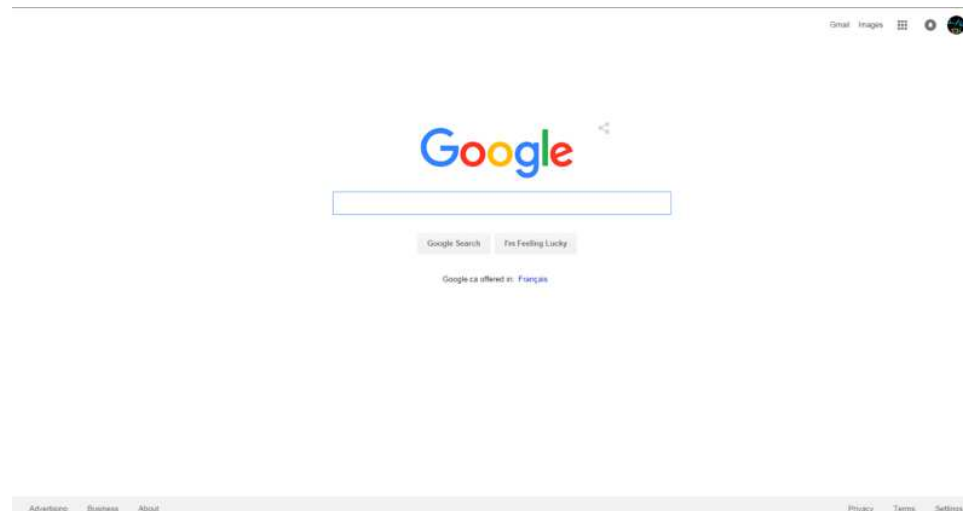
# Nielsenove heuristike - 7

- **Flexibility and Efficiency of use**



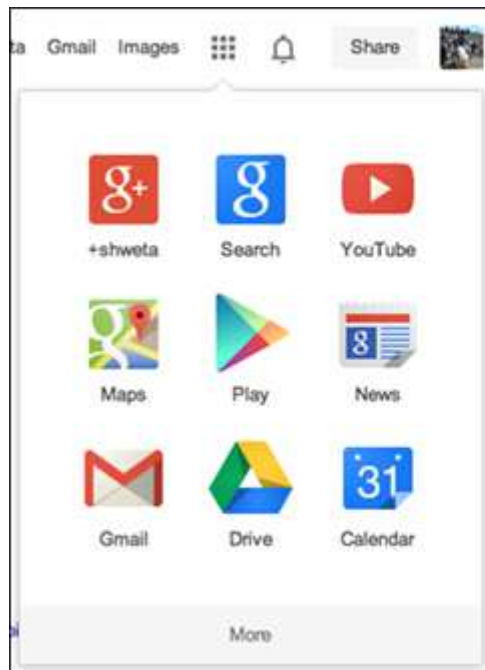
# Nielsenove heuristike - 8

- **8) Estetski i minimalni dizajn (Aesthetic and minimalist design)**
- Da li je svaka informacija koja je prikazana korisna i neophodna



# Nielsenove heuristike - 8

- **Aesthetic and minimalist design**



The icons belong to one family.

The design of icons is minimalistic with simple and creative graphics.



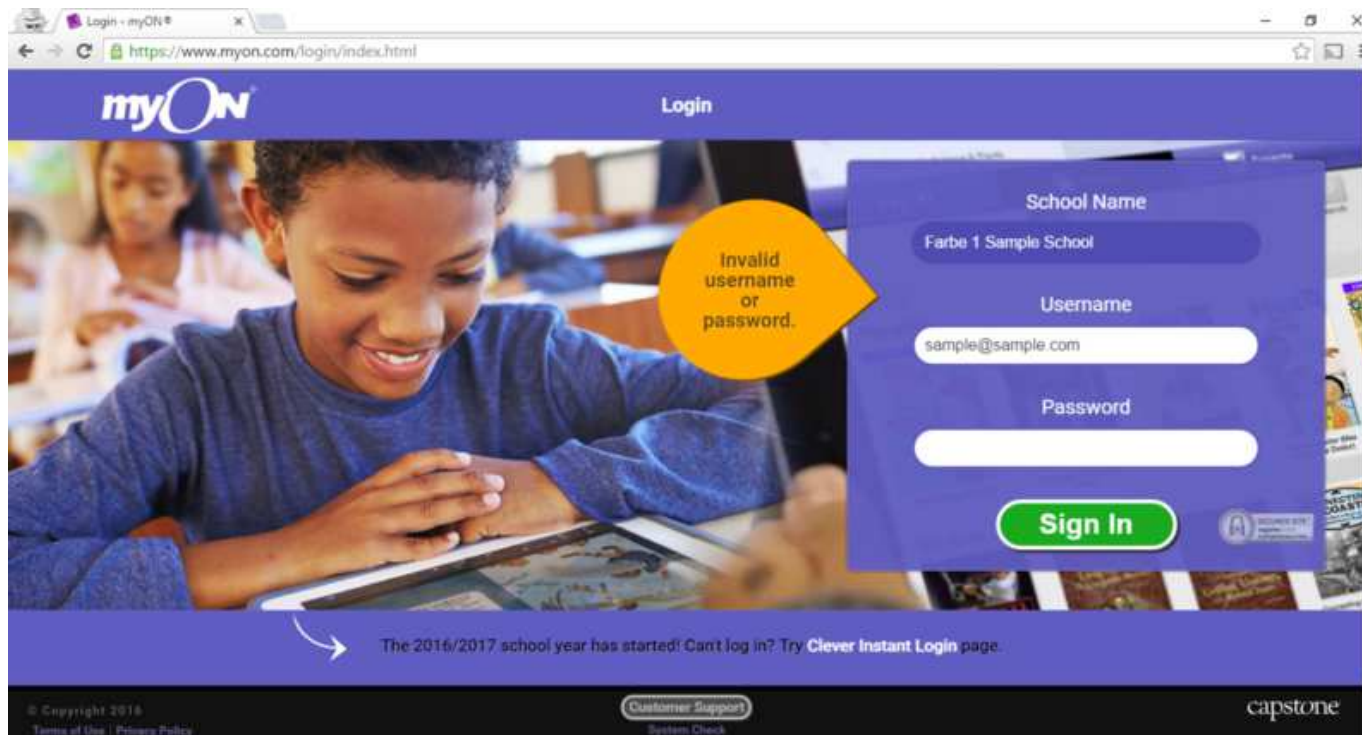
# Nielsenove heuristike - 9

- **9) Greške - izveštaj, dijagnoza i oporavak (Help users recognize, diagnose, and recover from errors)**
- Poruke o greškama treba da su jednostavne, da precizno opisuju problem i konstruktivno predlažu rešenje




# Nielsenove heuristike - 9

- Help users recognize, diagnose, and recover from errors
- Da li je username ili password pogrešan?



# Nielsenove heuristike - 9

- **Help users recognize, diagnose, and recover from errors**




⊗ Sorry, we couldn't find an account with that username. Can we help you recover your [username](#)?

Username [I forgot](#)  
freshsparkss

Password [I forgot](#)  
  Show

Stay logged in

[Create an account](#) · [Trouble logging in?](#)



⊗ Sorry, that password isn't right. We can help you recover your [password](#).

Username [I forgot](#)  
freshsparkss

Password [I forgot](#)  
  Show

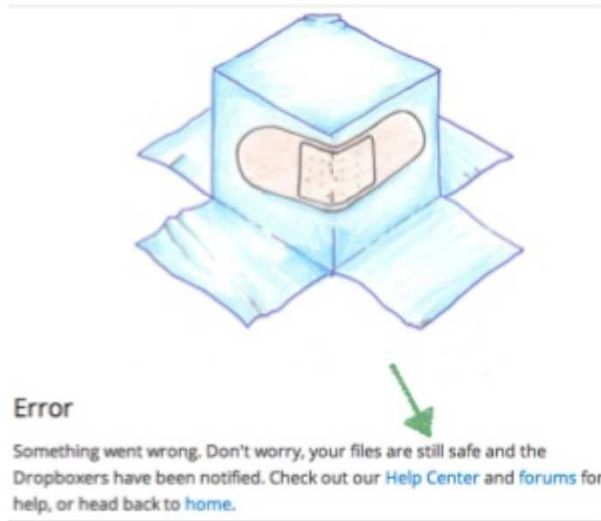
Stay logged in

[Create an account](#) · [Trouble logging in?](#)

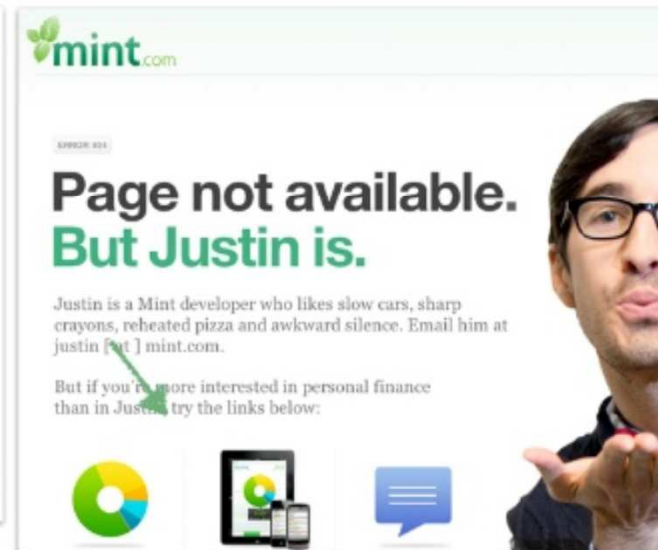
# Nielsenove heuristike - 9

- Help users recognize, diagnose, and recover from errors

*An assuring error message on Dropbox*




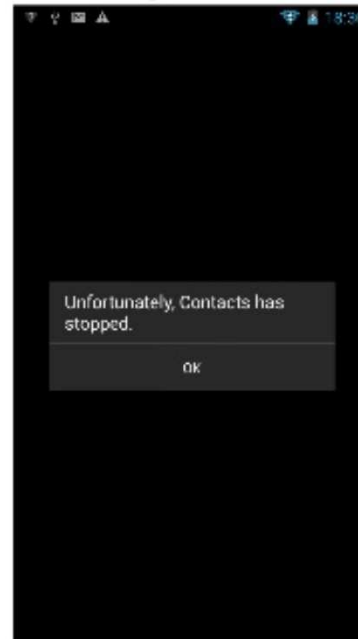
*A funny message keeps the audience engaged, while relevant links make sure they stay on your website.*



# Nielsenove heuristike - 9

- **Help users recognize, diagnose, and recover from errors**

 *Don't tell people that something's broken and can't be fixed.*

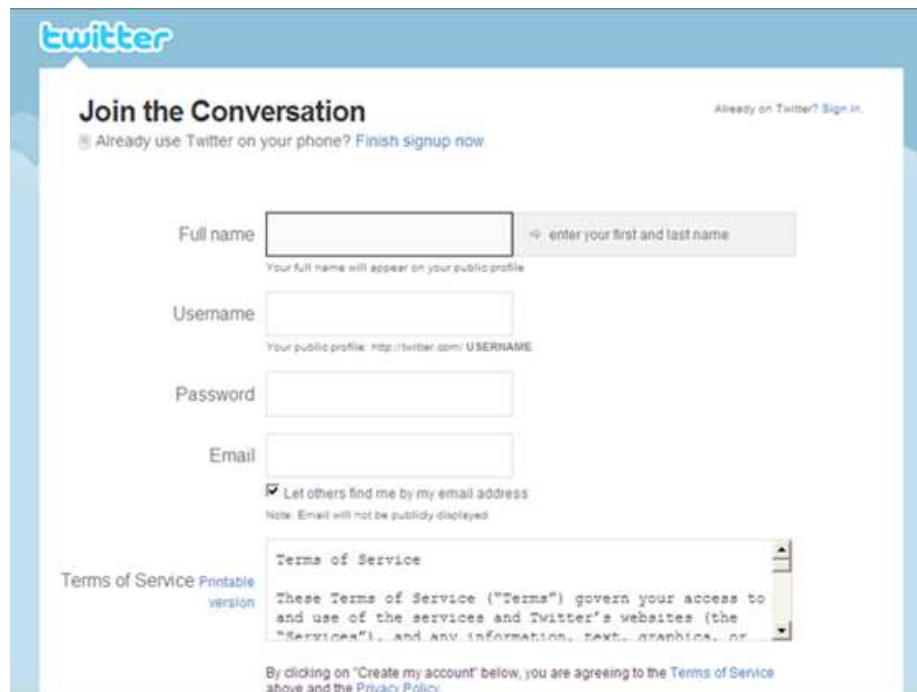


# Nielsenove heuristike - 10

- **10) Pomoć i dokumentacija (Help and Documentation)**
- Iako je bolje da je sistem može da se koristi bez dodatne dokumentacije, nekada će biti neophodno da se pruži pomoć i dokumentacija
- Svaka tražena informacija mora da bude laka za pretraživanje, fokusirana na zadatku korisnika,
- Treba da ponudi listu konkretnih koraka koji su potrebni da se izvrše i da ne bude preobimna

# Nielsenove heuristike - 10

- **Help and Documentation**
- Pomoć u kontekstu problema
- Reći korisnicima šta su posledice njihovih akcija



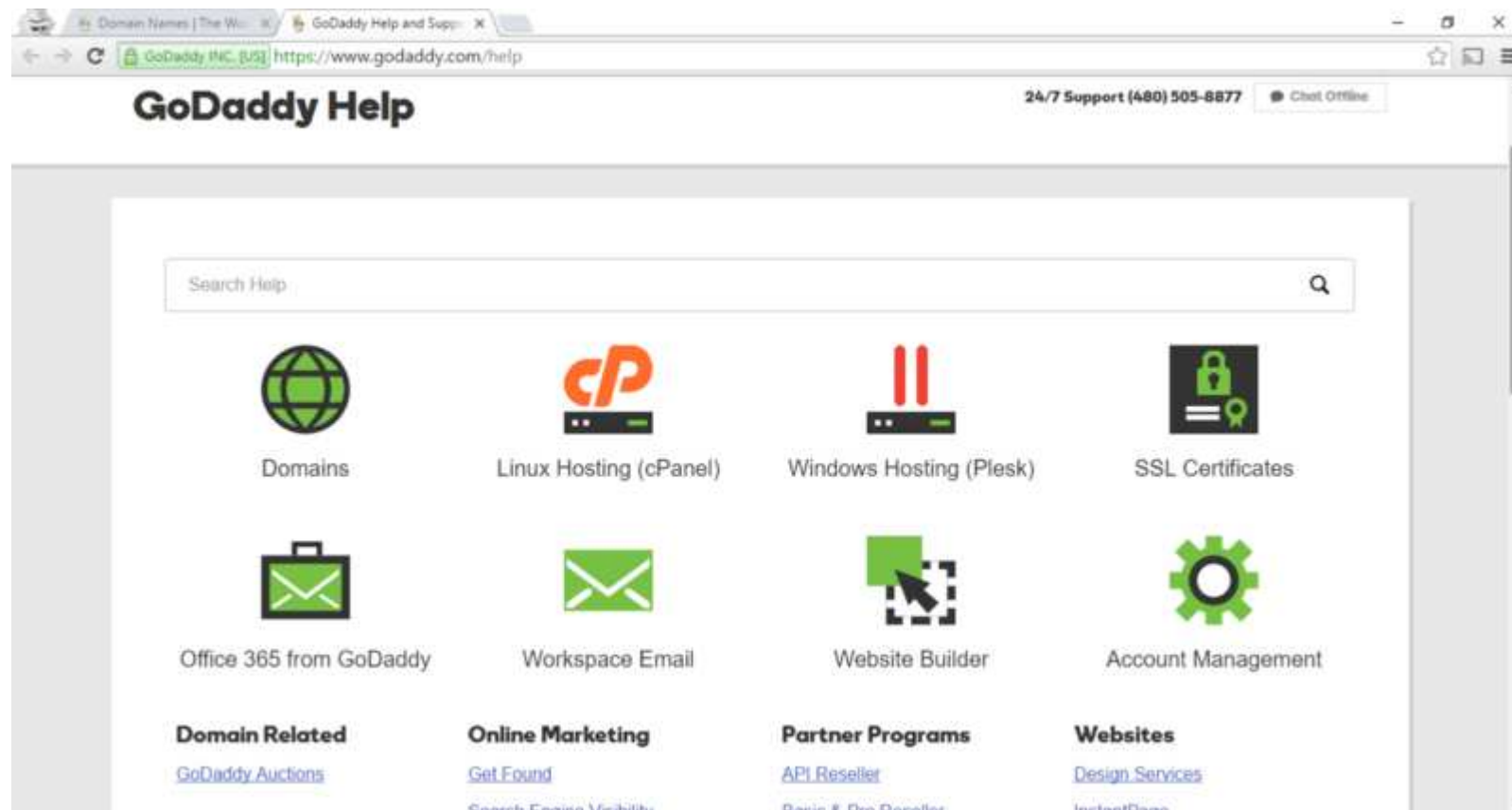
The image shows a screenshot of the Twitter sign-up page. At the top left is the Twitter logo. The main heading is "Join the Conversation". To the right of the heading is a link: "Already on Twitter? Sign in." Below the heading is a link: "Already use Twitter on your phone? Finish signup now." The form contains the following fields and elements:

- Full name:** A text input field with a placeholder "enter your first and last name". Below it is a note: "Your full name will appear on your public profile".
- Username:** A text input field. Below it is a note: "Your public profile: http://twitter.com/ USERNAME".
- Password:** A text input field.
- Email:** A text input field.
- Let others find me by my email address:** Below it is a note: "Note: Email will not be publicly displayed".
- Terms of Service:** A scrollable text area containing the text: "These Terms of Service ("Terms") govern your access to and use of the services and Twitter's websites (the "Services") and any information, text, graphics, or...".

At the bottom left of the form area, there are links for "Terms of Service", "Printable version", and "Terms of Service". At the bottom of the form, there is a note: "By clicking on 'Create my account' below, you are agreeing to the Terms of Service above and the Privacy Policy."

# Nielsenove heuristike - 10

- Help and Documentation

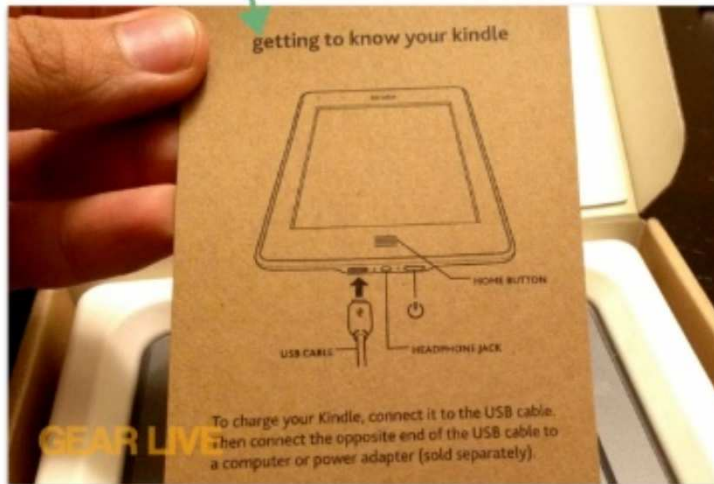




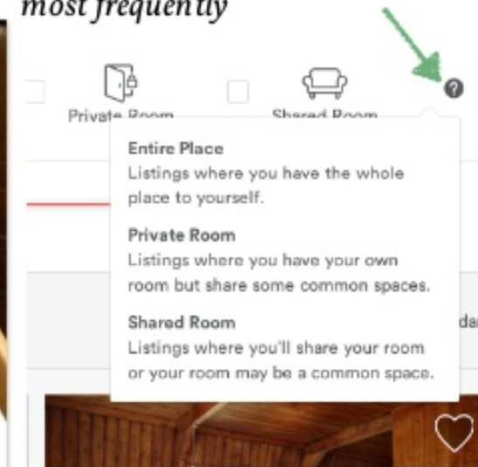
# Nielsenove heuristike - 10

- **Help and Documentation**

*The Kindle comes with an instruction card tucked inside the box flap, instead of a long boring manual*




*Contextual help on AirBnB provides explanations where they are needed most frequently*



# Nielsenove heuristike

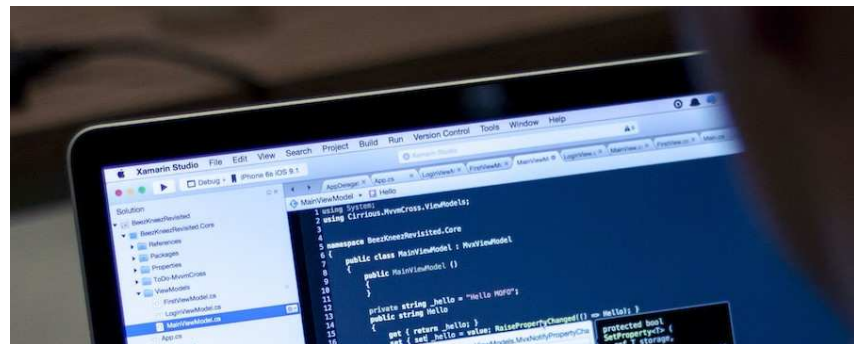
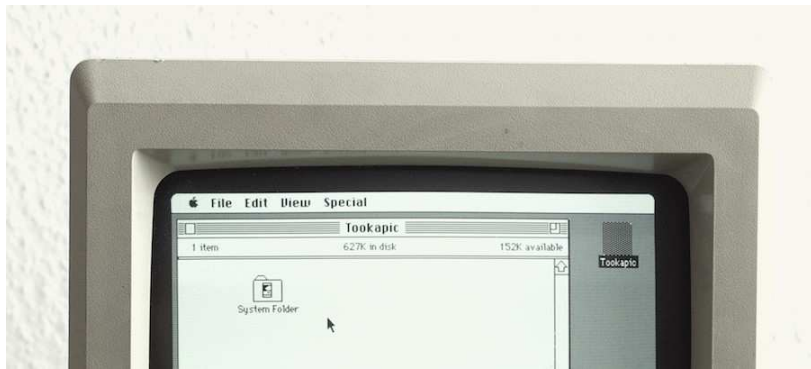
- **Help and Documentation**

 *If only diapers came with an easy tutorial!*



# Schneidermanova zlatna pravila - 1

- Ben Shneiderman
- **1) Consistency** – utisak da je sve stabilno
- Koristiti poznate boje, ikone, menije....
- Apple 1980 i 2010

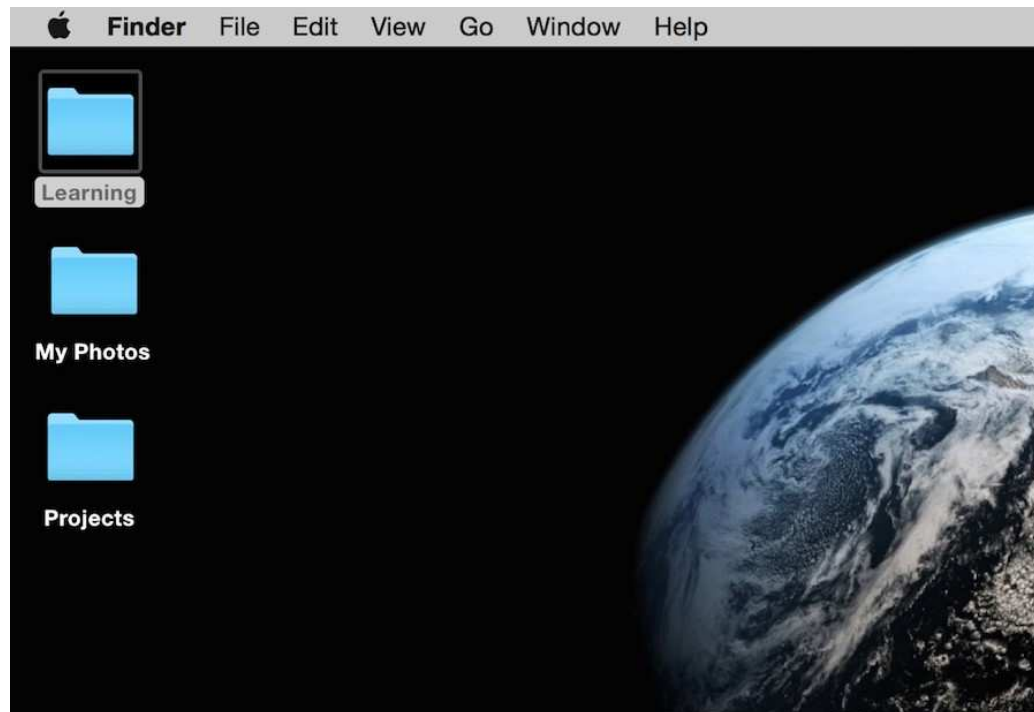


# Schneidermanova zlatna pravila - 2

- **2) Shortcuts**
- Iskusnim korisnicima omogućiti prečice kako bi dobili na brzini
- Iskusni korisnici desktop računara ne moraju da koriste miša
- Copy - paste

# Schneidermanova zlatna pravila - 3

- **3) Informative Feedback**
- Selektovanje foldera, drag and drop



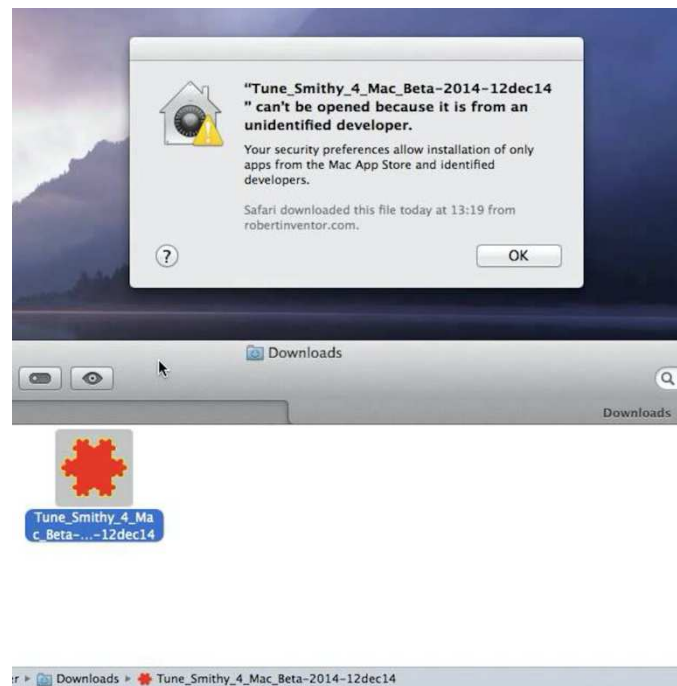
# Schneidermanova zlatna pravila - 4

- **4) Dialogue**
- Ne dozvoliti da korisnici pogađaju šta treba da rade, reći im gde će ih akcija dovesti



# Schneidermanova zlatna pravila - 5

- **5) Error handling**
- Informativne poruke o greškama



# Schneidermanova zlatna pravila - 5

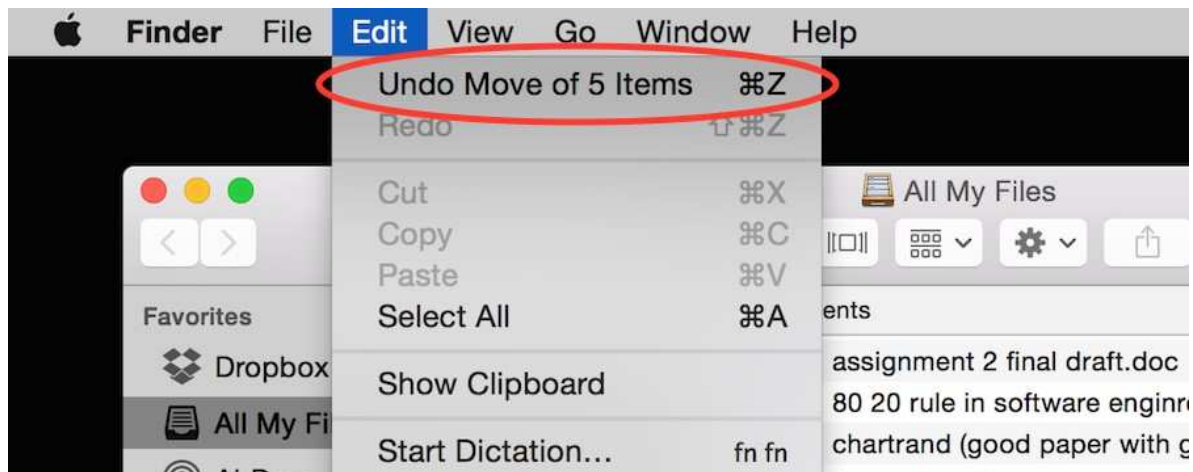
- **Error handling**
- Loš primer poruke o greškama





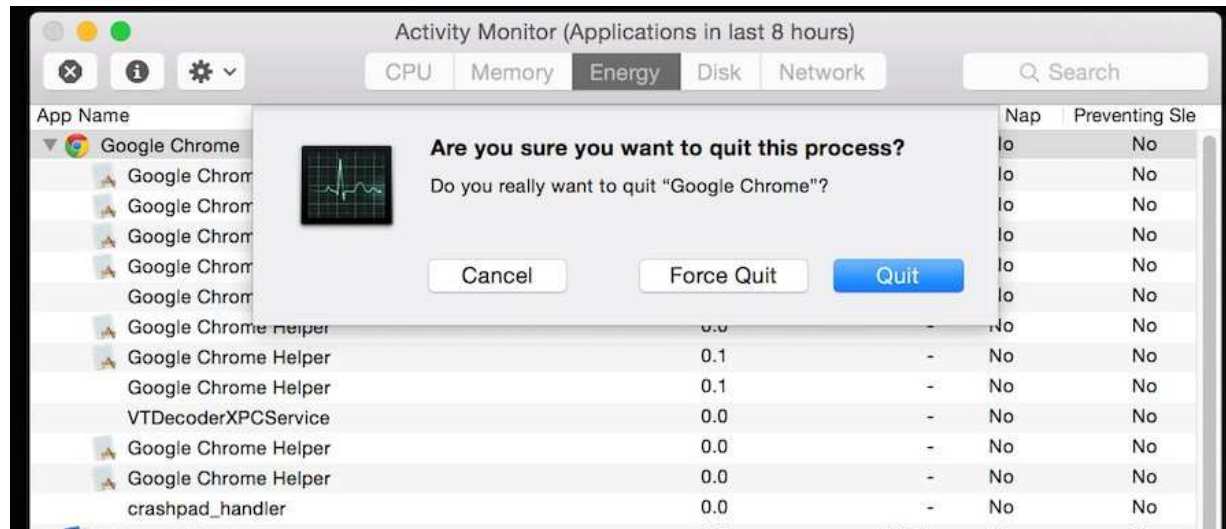
# Schneidermanova zlatna pravila - 6

- 6) Permit reversal of actions



# Schneidermanova zlatna pravila - 7

- **7) Support internal locus of control**
- Dati korisniku osećaj da ima kontrolu nad akcijama koje se dešavaju u digitalnom svetu
- Dozvoliti da korisnik inicira akcije



# Schneidermanova zlatna pravila - 8

- **8) Reduce short-term memory load**
- Ljudi mogu da drže najviše 5 stavki u kratkoročnoj memoriji
- Apple zato ima po 4 app ikone u glavnom meniju
- Ovde je i konzistencija pokrivena

