



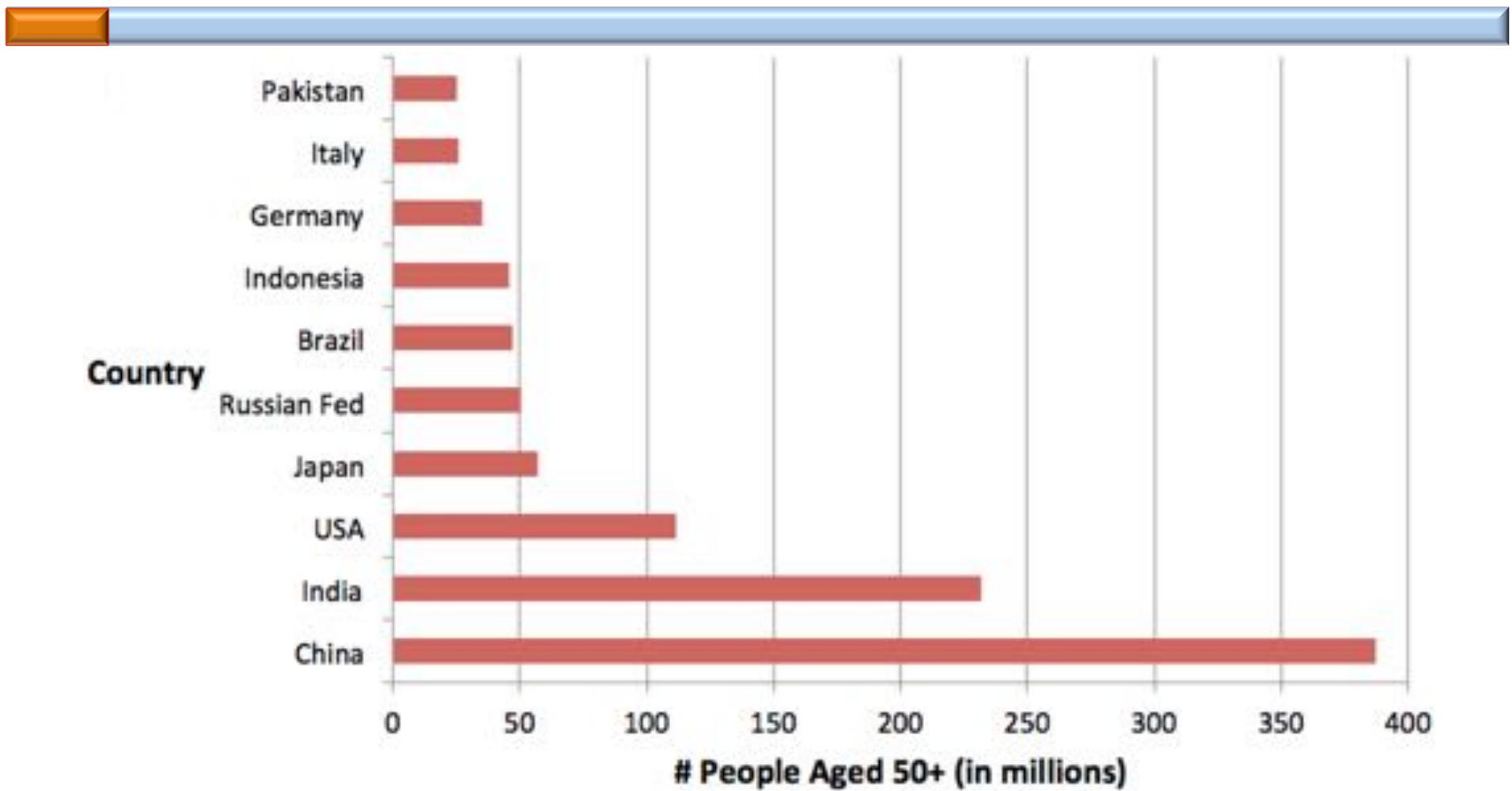
Designing Digital Technology for an Aging Population

Jeff Johnson, Ph.D.

Department of Computer Science
University of San Francisco

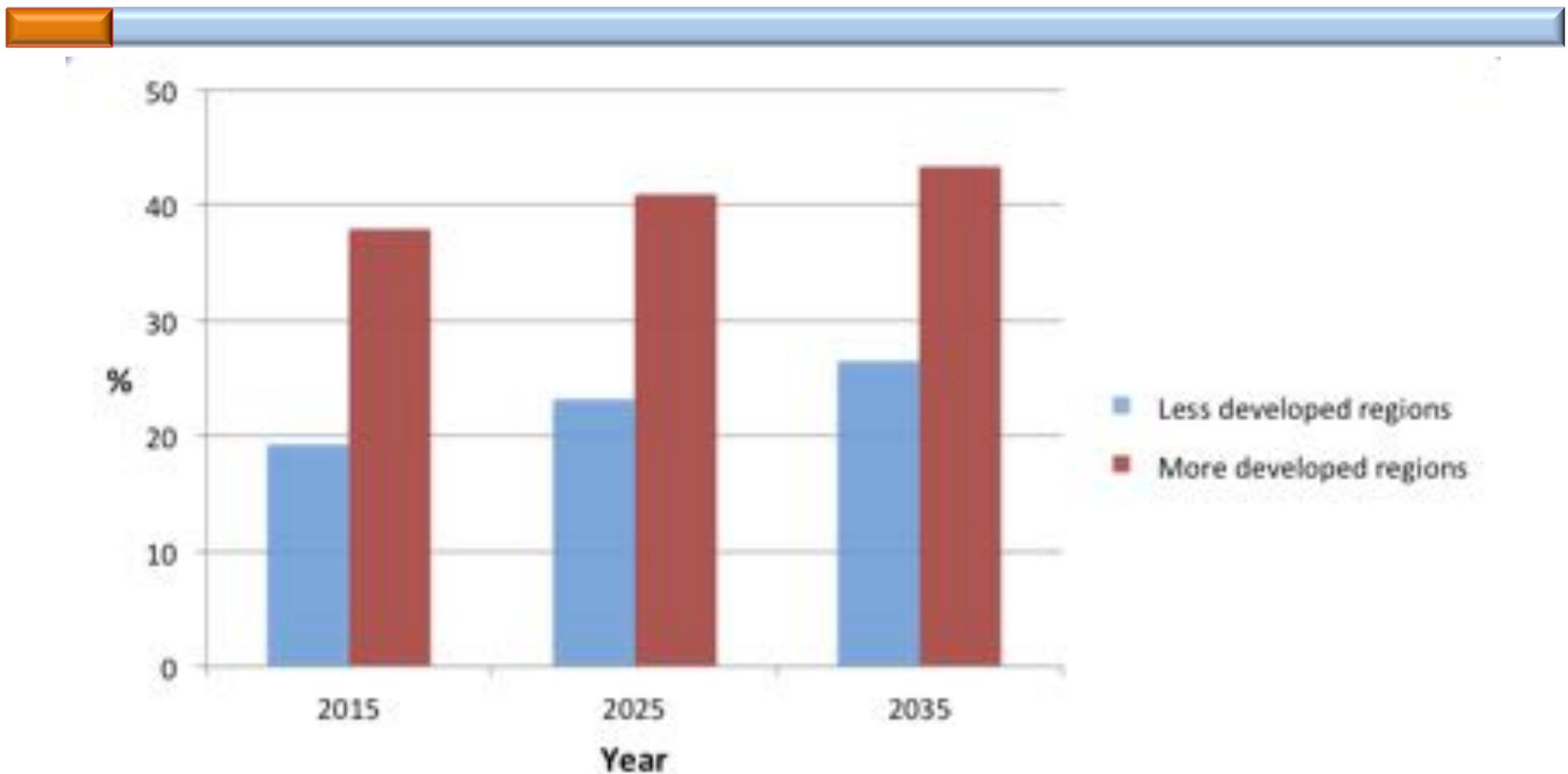
The Case for Age-Friendly Design:

Older Adults Comprise Growing #s in Nations' Populations



Source: United Nations, Department of Economic and Social Affairs, Population Division (2015). World Population Prospects: The 2015 Revision.

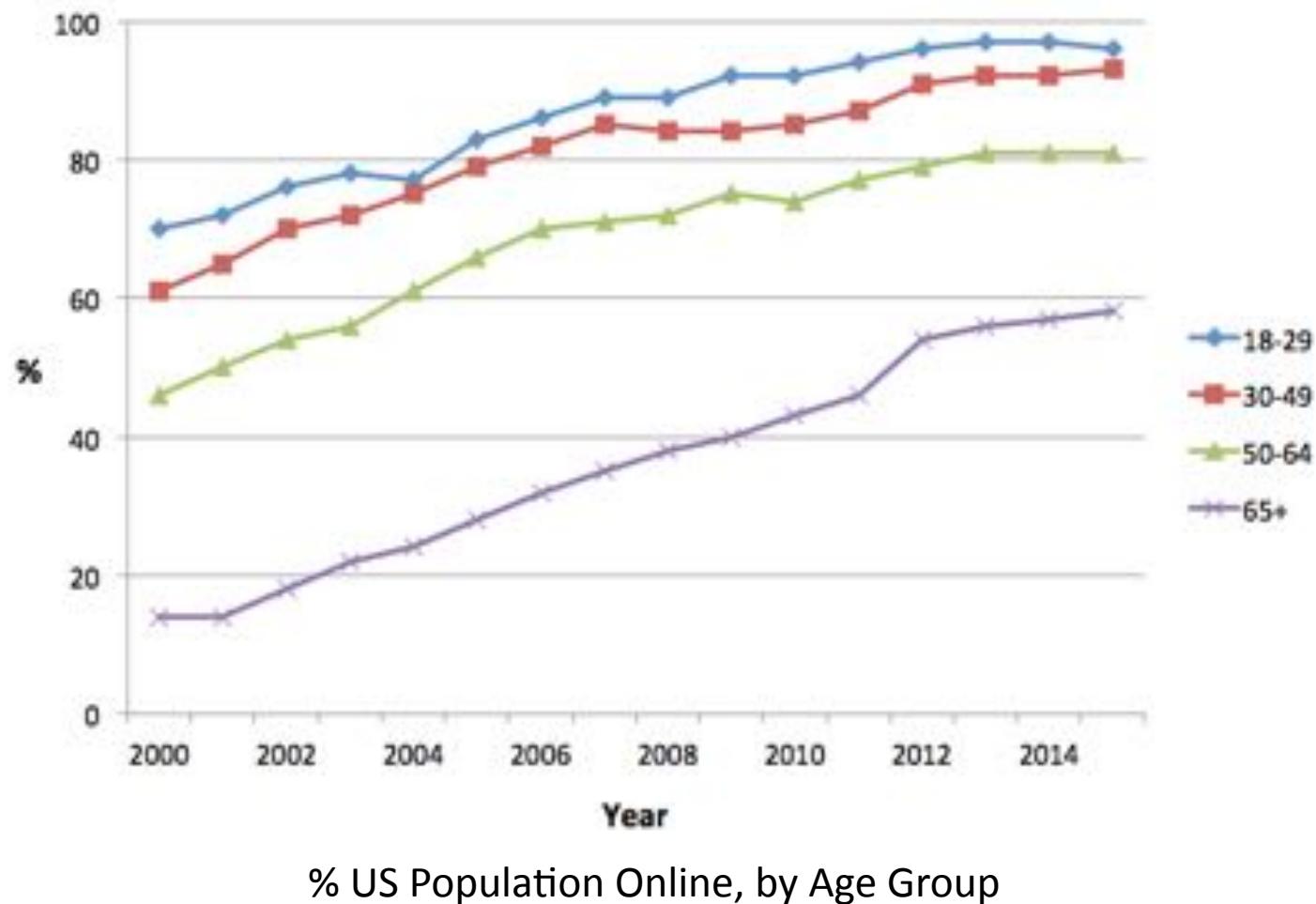
The Case for Age-Friendly Design: Older Adults Comprise Growing % of Nations' Populations



Source: United Nations, Department of Economic and Social Affairs,
Population Division (2015). World Population Prospects: The 2015 Revision.

The Case for Age-Friendly Design

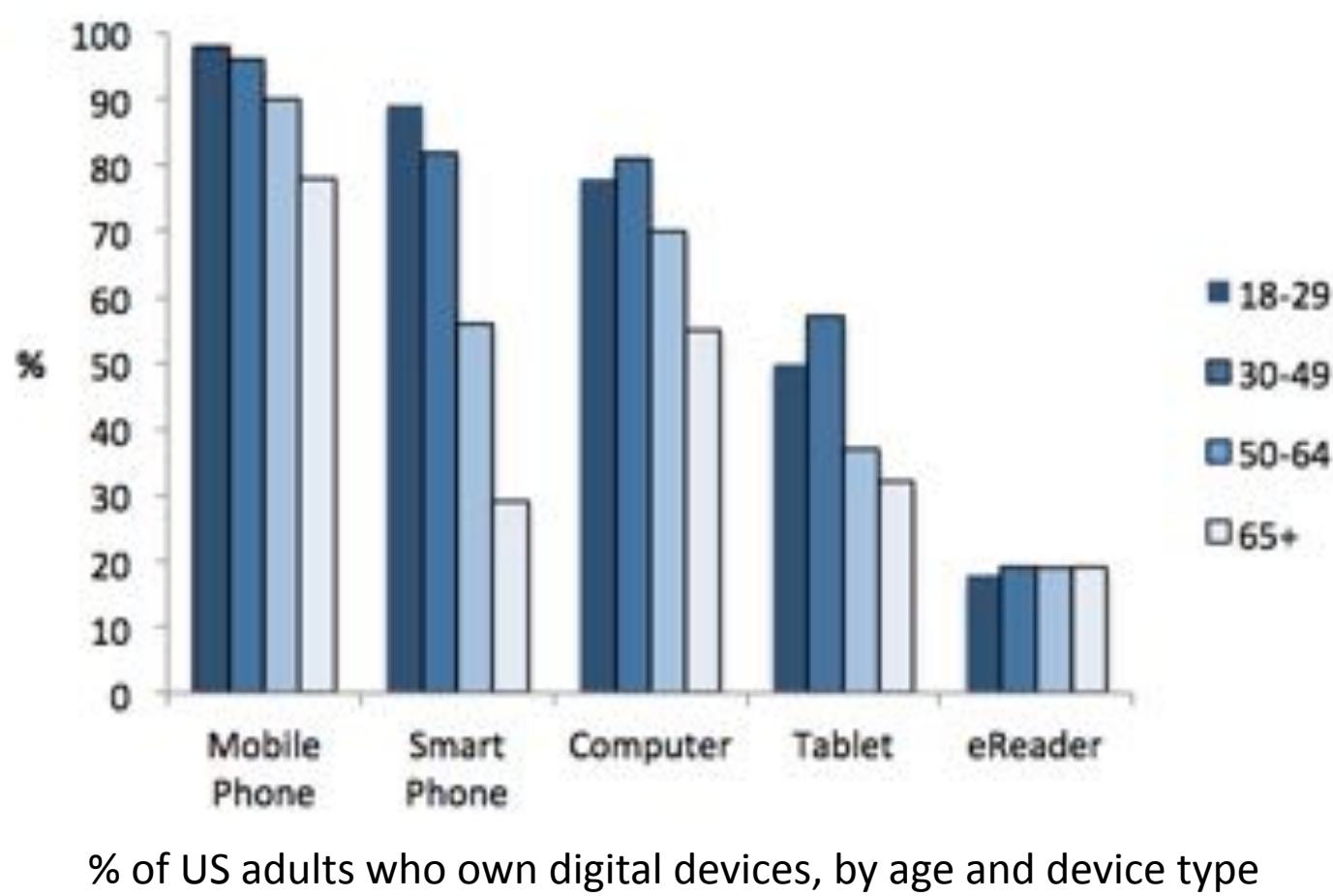
Increasingly, Older Adults Are Going Online



Source: PewInternet.org

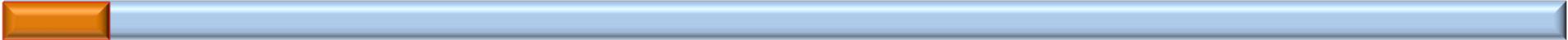
The Case for Age-Friendly Design

Older Adults Do Use Digital Technology



Source: Anderson, 2015

Technology Can Help Older Adults



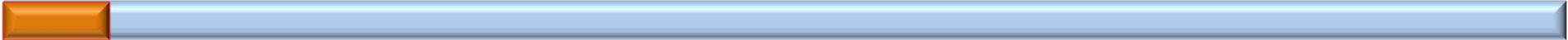
A Mac laptop opened up the world to me, right here, from my kitchen table. This is a blessing because my mobility is now extremely limited due to my physical disability.

Technology Can Help Older Adults



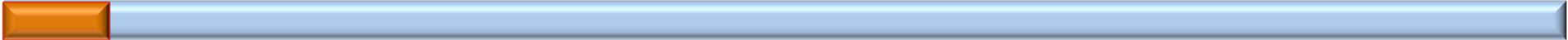
Technology has helped me move 19 times in the past 9 years, taking 'everything' with me.

Technology Can Help Older Adults



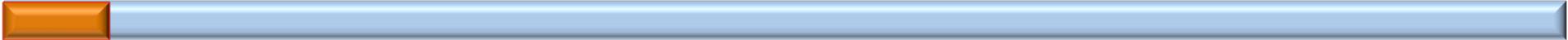
I can keep in touch with
people all over the world.

Technology Can Help Older Adults



I can't imagine going back to a life without a computer.

Technology Can Help Older Adults



I feel so connected to so
much of the world: art,
music, nature, comedy,
humanity.

But Not if Poorly Designed

So much to remember!

I wish they would stop
changing things for no
good reason.

What happened to the
menus?

How can I make the font
bigger? I can't see it!

Who thought thin grey
letters was a good idea?!

My limitations frustrate me,
but I don't know where to
get help.

All the new technology is just
so confusing to me.

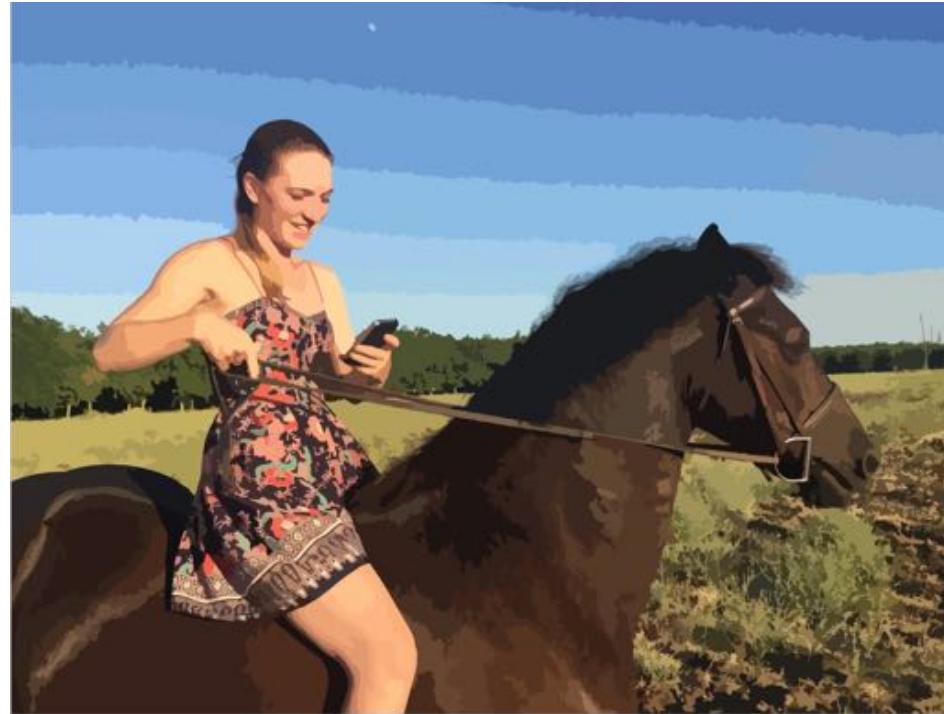
It's embarrassing to have to
ask my grandkids' help.

Age-Friendly is *Everyone*-Friendly

Everyone is Impaired At Least Some of the Time

Design for older adults, and you design for almost everyone else. [Alan F. Newell]

Even young people can have trouble in some situations:



Age-Friendly is *Everyone*-Friendly

Everyone is Impaired At Least Some of the Time



Design for older adults, and you design for almost everyone else. [Alan F. Newell]

An enhancement that helps many: **Curb cuts**



Need for Age-Friendly Design Will **Not** Disappear

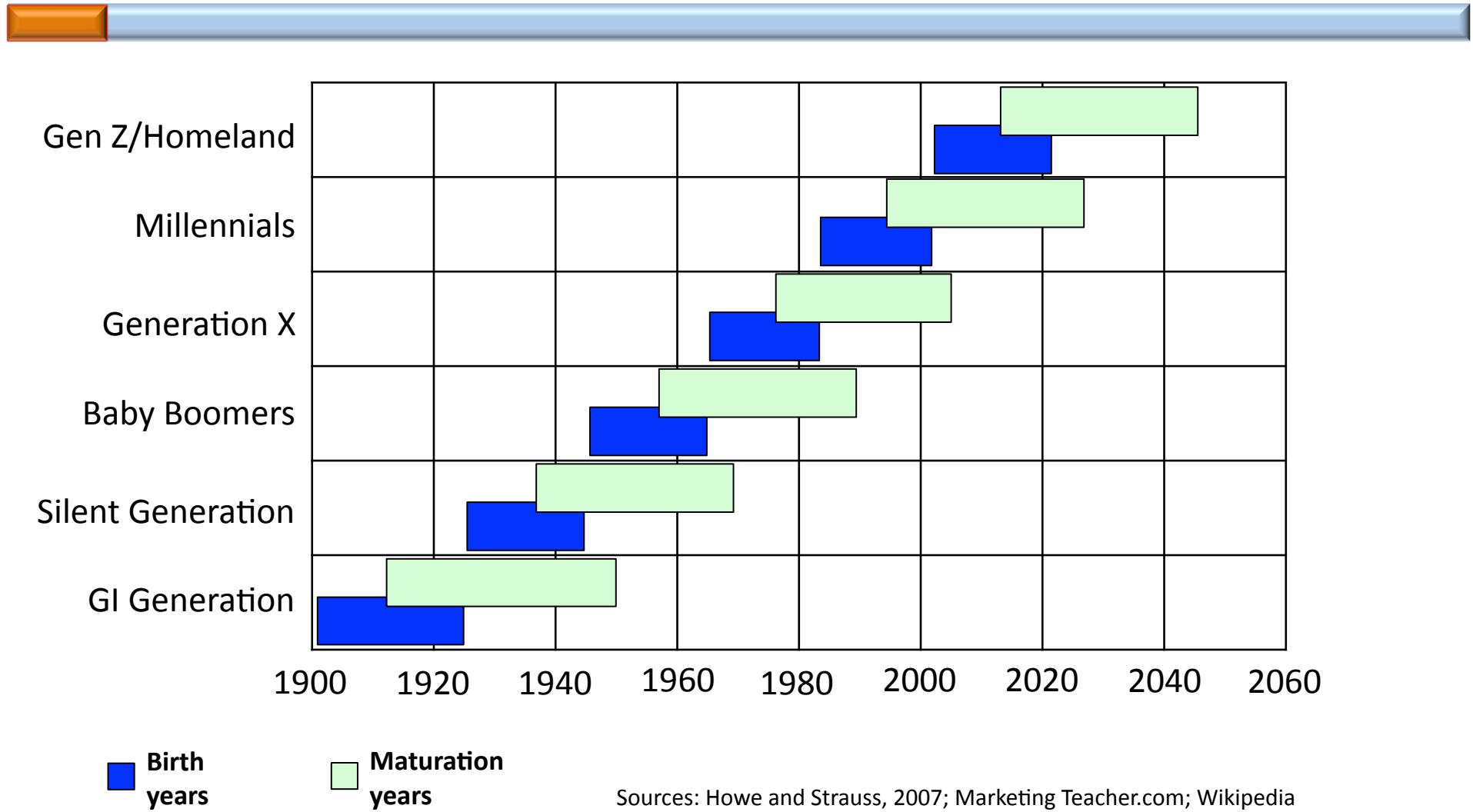
“Digital Natives” vs. “Digital Immigrants”?

- Not all young adults are techno-whizzes.
- Technology will continue to develop.
- People will continue to have trouble with technology they didn’t grow up with.
 - Tech later than their “technology generation”

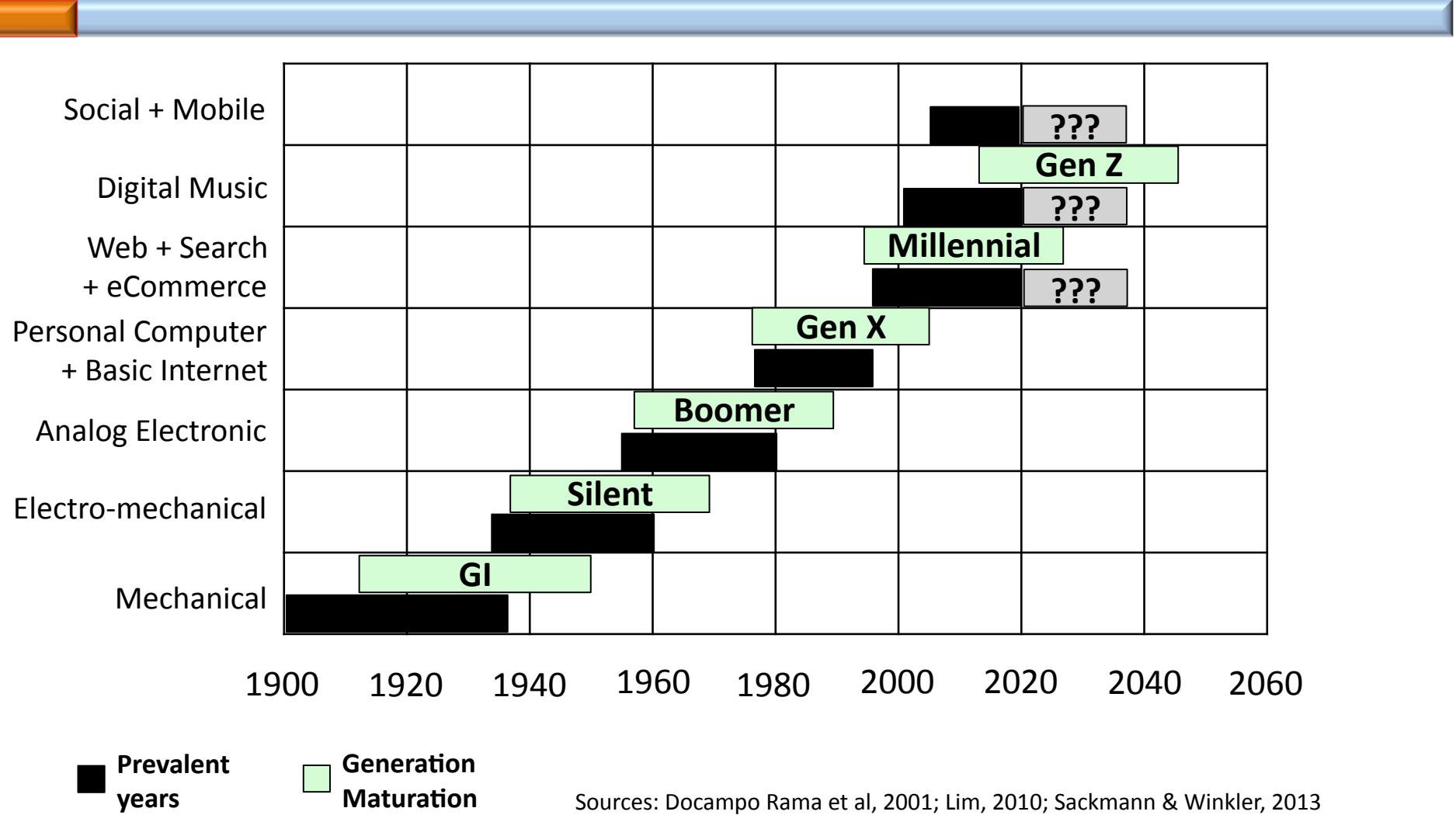


[Photo Source: <http://www.dreamstime.com>]

Technology Generations



Technology Generations



Need for Age-Friendly Design Will **Not** Disappear

“Digital Natives” vs. “Digital Immigrants”?

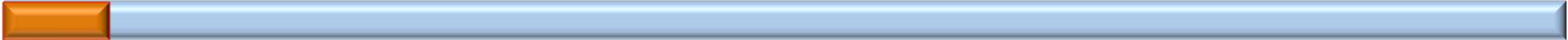
- Not all young adults are techno-whizzes.
- Technology will continue to develop.
- People will continue to have trouble with technology they didn’t grow up with.
 - Tech later than their “technology generation”



[Photo Source: <http://www.dreamstime.com>]

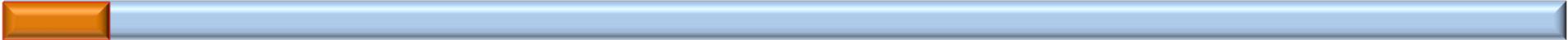
- **Most of us experience age-related changes.**

Age-Related Changes & Characteristics



- Vision
- Motor Control
- Speech & Hearing
- Cognition: Attention, Learning, Memory
- Knowledge
- Attitude

Age-Related Changes: Vision



- Decreased ability to focus close (farsightedness, or presbyopia)
- Lower sensitivity to light
- Heightened sensitivity to glare
- Reduced sensitivity to color & contrast
- Lens yellowing
- Narrowed field of vision
- Slower adaptation to changes in lighting
- Slower re-focusing with changes in distance

Vision Changes

Normal



Lens
Yellowing



Presbyopia/
Farsightedness

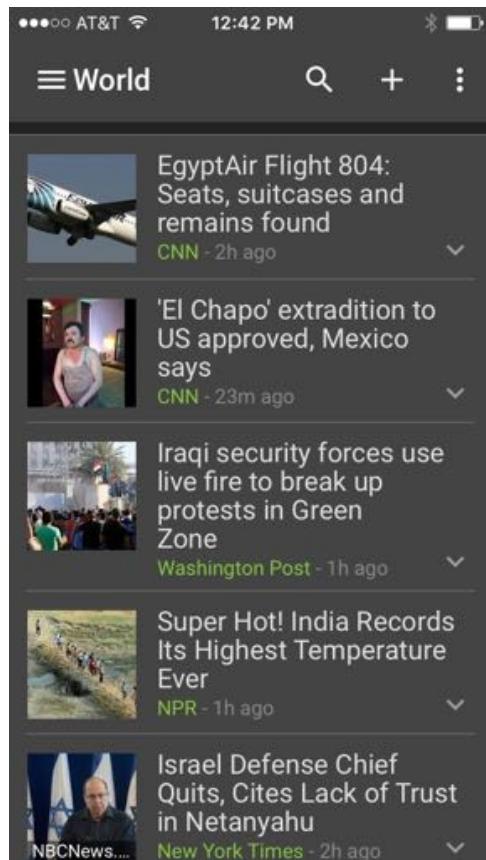


Glare
Sensitivity

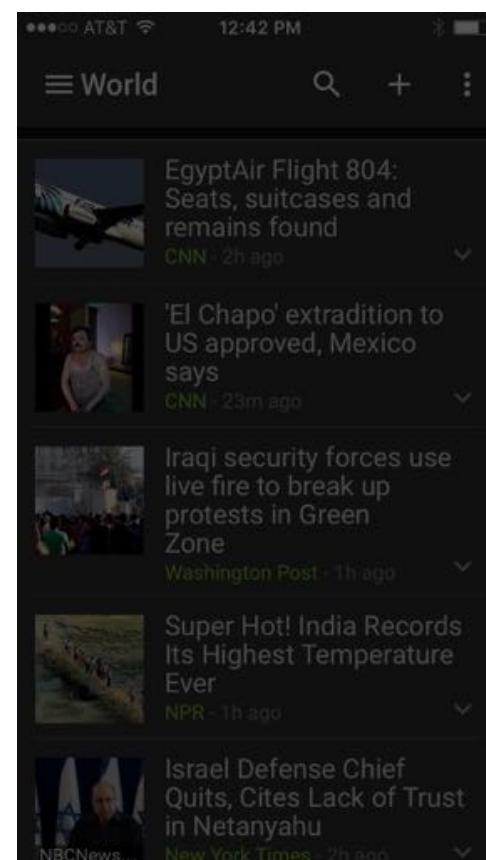


Vision Changes

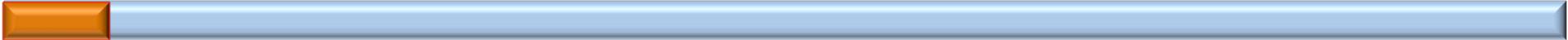
Normal



Reduced Light Sensitivity



Visual Design Guidelines



1. Maximize legibility of essential text.

- Plain, large, fonts: sans-serif, 14+ point (5mm)
- Mixed case
- Static text
- Ample line & paragraph spacing: 1.5 line spacing
- Plain background
- Easily enlargeable text

Visual Design Guidelines:

Avoid tiny text; make resizing easy

The image shows a screenshot of the official Social Security website. At the top, there's a navigation bar with links for Accessibility, Contact Us, FAQs, Español, Other Languages, and Sign In. Below the navigation is a search bar with a magnifying glass icon and the placeholder text "Search...". The main content area features a large banner on the left with a woman thinking about her Social Security benefits. To the right of the banner are four smaller cards: "Apply for Retirement" (showing a woman at a laptop), "Employers: File W-2s online" (showing hands typing on a laptop), "Get a copy of your SSA-1099 or SSA-1042" (showing an elderly couple looking at a document), and "Change of Address" (showing a couple moving boxes). A large red "X" is overlaid on the top right corner of the screenshot.

Visual Design Guidelines:

Avoid tiny text; make resizing easy; good spacing

The screenshot shows the NIH Senior Health website. At the top, there is a blue navigation bar with links for Home, Health Topics A-Z, Videos A-Z, About Us, and Contact. To the right of the navigation bar is a search bar with a green 'Go' button. Below the navigation bar, the page title 'NIH Senior Health' is displayed in large, bold, black font, followed by the tagline 'Built with You in Mind'. To the right of the title is a photograph of four people: two seniors on stationary bicycles and two healthcare professionals (a doctor and a nurse) standing behind them. Below the title and tagline is a horizontal menu bar with links for Resize Text (with three font size icons), Change Contrast, Print, Sign Up, and Share. A red dashed box highlights the 'Resize Text' link. To the right of the 'Resize Text' link is a green circle containing a white checkmark.

Home > Health Topics A-Z > Hip Replacement: Who Needs A Hip Replacement?

In This Topic

- Who Needs A Hip Replacement? (highlighted)
- Types Of Surgeries
- Preparing For Surgery
- Having Surgery
- Possible Complications
- What To Expect In

Hip Replacement

Who Needs a Hip Replacement?

Hip replacement is an operation in which a damaged hip joint is removed and replaced with an artificial joint. There are many medical conditions that can damage the hip joint.

Reasons for Hip Replacement

The most common reason for hip replacement is osteoarthritis. Osteoarthritis occurs when the cartilage covering the ends of the bones in the hip joint wears away over time, causing pain and stiffness.

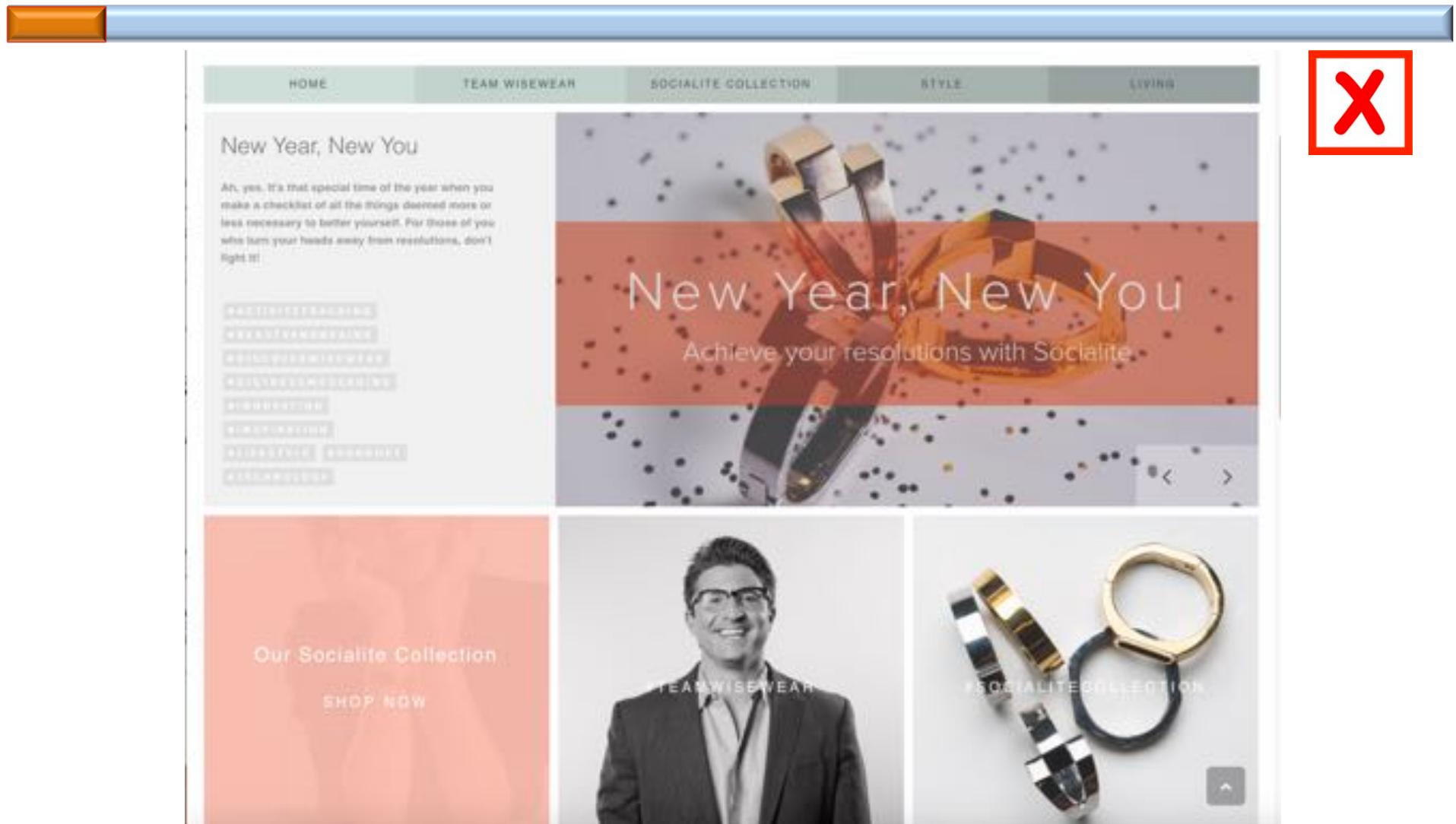
Visual Design Guidelines

2. Use color judiciously.

- Use color sparingly
- Be cautious with **blue** vs. **green**
- If using color to mark links “**visited**” vs. “**not**”, make sure users can distinguish the colors
- Avoid using color as the sole indicator  
- Ensure high color contrast, e.g., ratio of 4.5:1+
 - 3:1 for large text
 - Provide easy way to adjust contrast

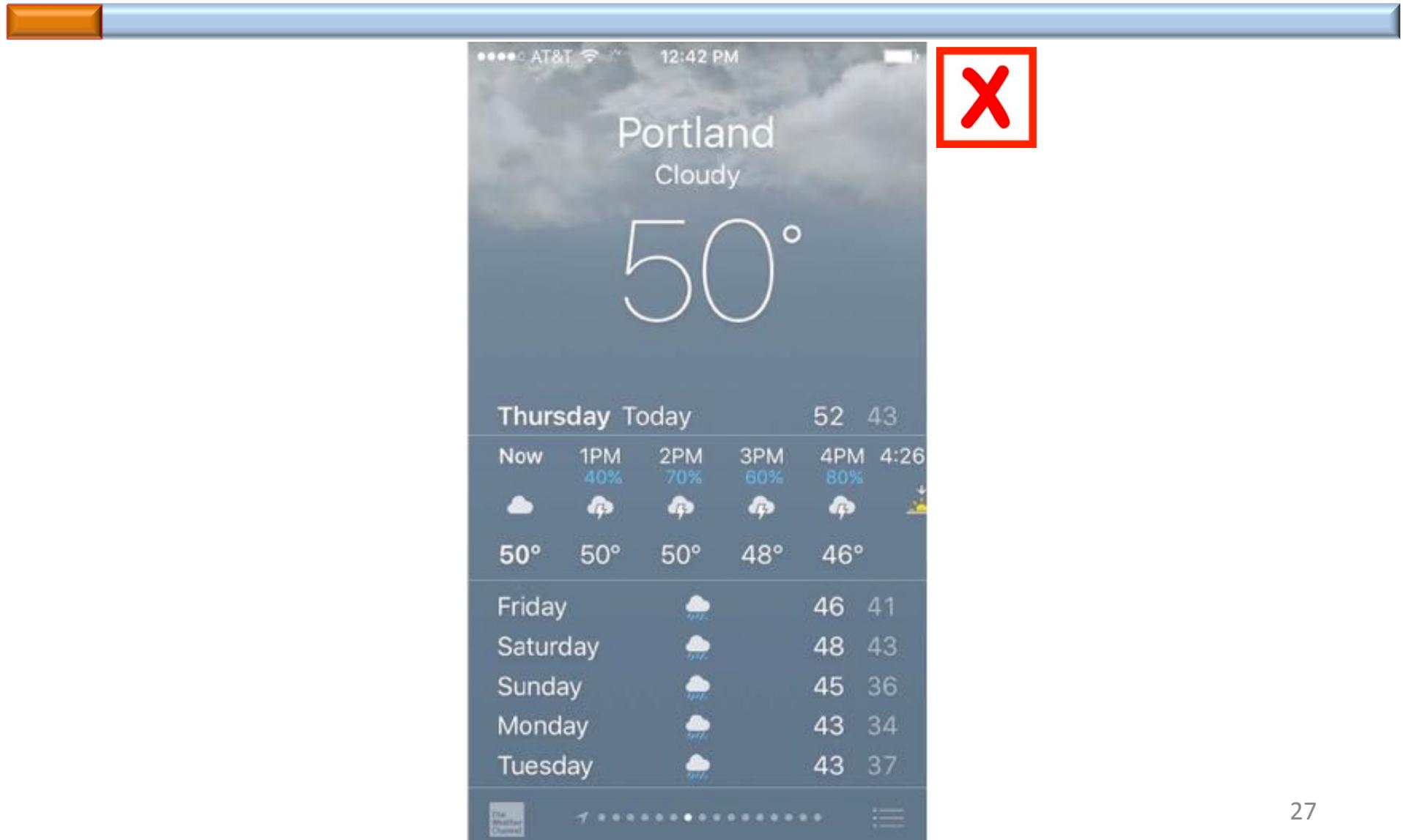
Visual Design Guidelines:

Display text in high contrast, with plain background



Visual Design Guidelines:

Display text in high contrast; make it easily enlargable



Visual Design Guidelines:

Display text in high contrast



The screenshot shows the Bank of the West Online Banking website. The header features the bank's logo and navigation links for Home, Security, Locations, Customer Service, Sign In, and a search bar. Below the header is a navigation menu with tabs for Overview, Manage Accounts, Payments & Transfers, Online Security, and Get Help. A large banner in the center of the page reads "CLEAN DESIGN. EASY NAVIGATION." in bold blue text, with the subtext "Your Online Banking experience just got better." A woman is shown sitting on a couch using a tablet. To the right of the banner is a green circle containing a white checkmark. The main content area contains text about the benefits of online banking and icons for account control, bill payment, and alerts. On the right side, there are "Get Started" and "Resources" sections.

CLEAN DESIGN. EASY NAVIGATION.

Your Online Banking experience just got better.

Fast. Efficient. Accurate. Everything You Want in Online Banking

Bank of the West always puts customers first. We're always looking for new and better ways to enhance your banking experience, whether it's in our branches, online or on your mobile device. Explore Bank of the West Online Banking now and see how we work for you.

Take control of your accounts.

Pay bills. Transfer money.

Get alerts by text or email.

Get Started

Enroll Now

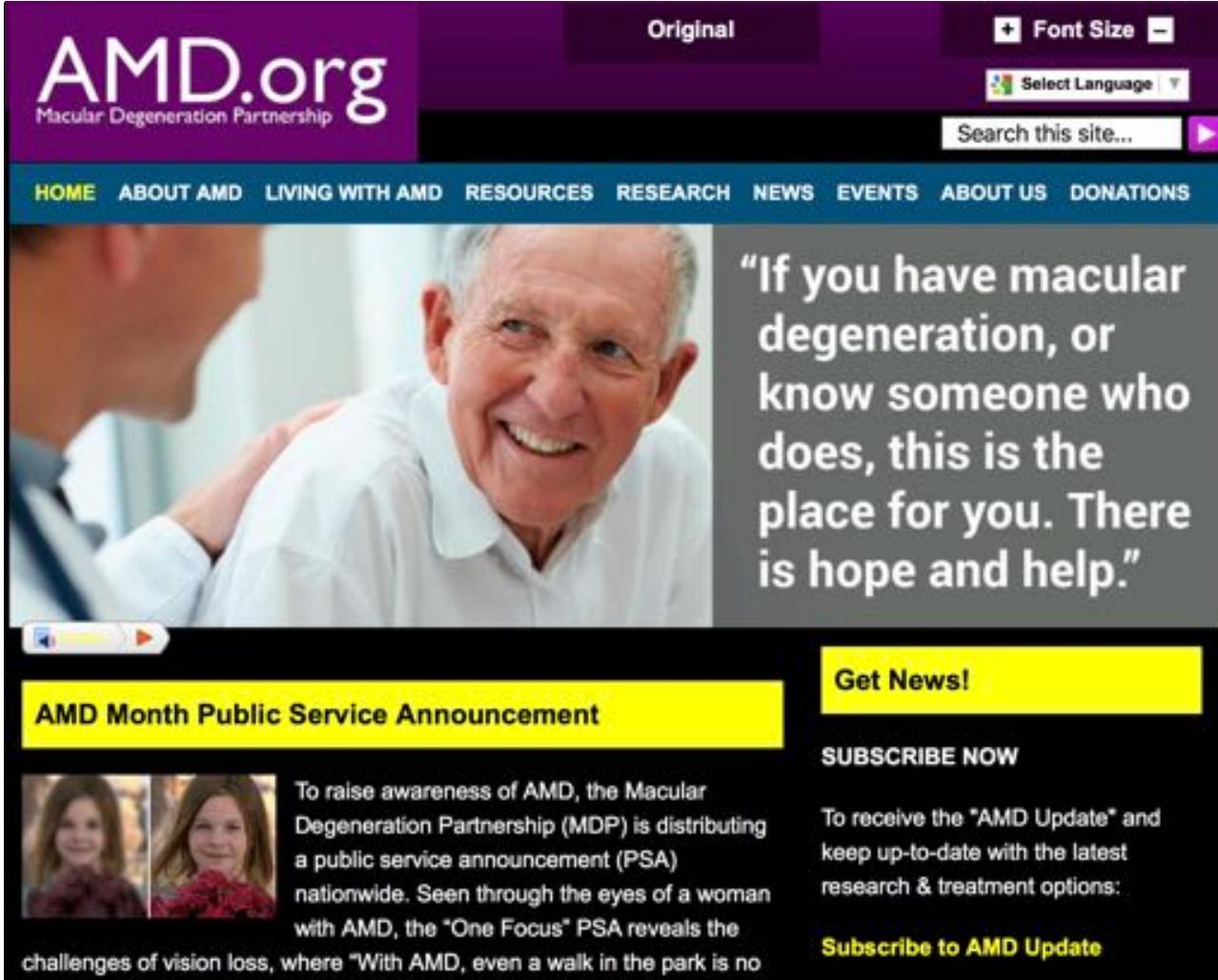
Sign in to Online Banking >

Resources

Frequently Asked Questions >

Visual Design Guidelines:

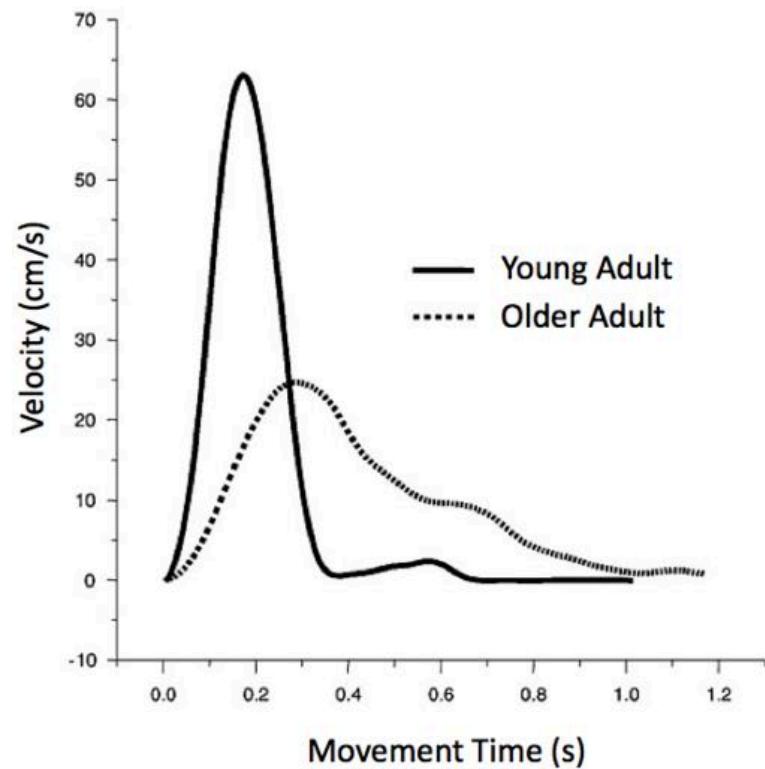
Display text with high contrast to background



The screenshot shows the AMD.org website. At the top, there's a purple header bar with the AMD.org logo and "Macular Degeneration Partnership". To the right of the logo are buttons for "Font Size", "Select Language", and a search bar with the placeholder "Search this site...". Below the header is a navigation menu with links to HOME, ABOUT AMD, LIVING WITH AMD, RESOURCES, RESEARCH, NEWS, EVENTS, ABOUT US, and DONATIONS. The main content area features a large image of an older man smiling, with a woman's hand visible on his shoulder. To the right of the image is a block of text: "If you have macular degeneration, or know someone who does, this is the place for you. There is hope and help." Below this, there's a yellow banner with the text "AMD Month Public Service Announcement" and a "Get News!" button. Further down, there's a section about a public service announcement featuring two young girls, followed by a call to subscribe to the "AMD Update". A green circle with a checkmark is positioned to the right of the website screenshot.

Age-Related Changes: Motor Control

- Reduced hand-eye coordination
- Reduced fine-motor control
- Reduced strength, stamina
- Slower movements
- Stiffness

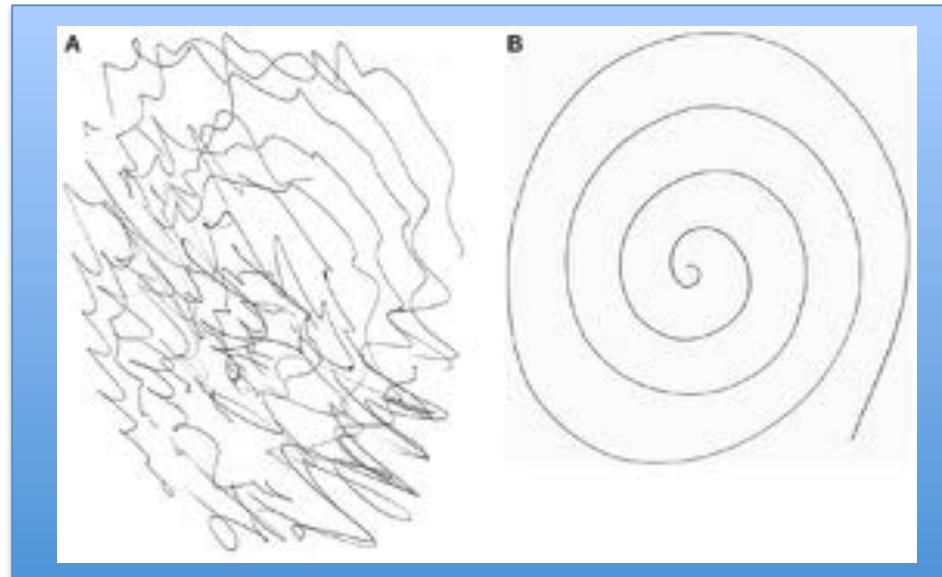


Impacts of Motor Control Changes

- Difficulty grasping/manipulating small objects
 - Stylus or other pointing devices; small controls
- Difficulty with continuous movements
 - Click-drag, tap-drag, or tap-hold gestures
 - Pinch, spread, double-tap gestures
- Problems executing coordinated gestures
- Increased *variance* in movements
 - Decreased reliability in recognition of gestures
- Increase in hand tremor and in risk of unintentional click or touch
 - Accidental selection of object, navigation to location, etc.

Motor Control:

Drawing a Spiral with Hand Tremor



Neurological Diagnostic Test

- A: Spiral drawn by person with tremor
- B: Spiral drawn by person without tremor

Motor Control: Struggling to Select “Kenya” from Pull-Right Menus

The screenshot shows the homepage of the Road Scholar website. At the top, there is a navigation bar with links for HOME, USA, Africa & Middle East, Asia, Australia & South Pacific, Canada, Europe, and The Americas & Antarctica. Below this is a secondary navigation bar with links for Free Catalog, Special Offers, Adventures Afloat, Small Groups, Donate, Refer a Friend, and Online Store. A large orange button is visible on the left side.

Sign Up

and receive your
**FREE E-Newsletter &
E-Photo book:**

Top 10 Learning Experiences
Around the World

E-mail address:
Confirm your E-mail address:

GO

Highlighted Programs

Most Popular
New Programs
Budget-Friendly Programs
Last-Minute
Low Activity Level Programs

Featured This Month

Train Treks
Holidays
Intergenerational Adventures
National Parks

Find a Program...
...by Location

September 30th

is the day we close the books
on the 2012 fiscal year.

Please help us meet our goal
and support the Annual Fund.

Support the Annual Fund Today ►

Learn More

Explore the World With Road Scholar

Educational Travel Since 1975

Road Scholar, the not-for-profit leader in educational travel since 1975, offers 6,500 educational tours in all 50 states and 190 countries. Alongside local and renowned experts, experience in-depth and behind-the-scenes learning opportunities, from cultural tours and study cruises to walking, biking and more.

[Learn More About Road Scholar](#)

Road Scholar on Facebook

Like

9,773 people like Road Scholar.

A Like Liked Liked Photo

I WANT TO LEARN ABOUT ...

[Any Type of Program] in [Any Country] or [Any State] from: [Any Date] to: [Any Date] **GO**

Add price, activity level and more.
[Click here for advanced search.](#)

Road Scholar Blogs

A large red 'X' is overlaid on the navigation bar area, specifically highlighting the 'Kenya' link in the 'International' dropdown menu.

Motor Control: Road Scholar Old vs. New Menus

The image shows two versions of the Road Scholar website's navigation menu side-by-side, illustrating the transition from an older design to a newer one.

Left (Old Menu):

- Africa & Middle East
- Africa
- Middle East
- 
- OUR
OUR &
OK:
- Programs
- Events
- Programs
- onth

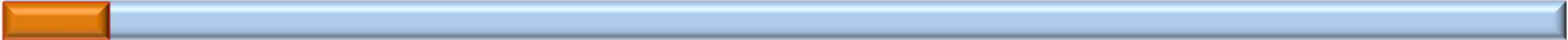
Right (New Menu):

- Africa & Middle East
- Africa
- Middle East
- 
- our
tter &
ok:
periences
ord
- address
- go
- Programs
- Events
- Programs
- onth

Common Elements:

- Asia
- Australia & South
- Botswana
- Egypt
- Ghana
- Kenya
- Libya
- Madagascar
- Malawi
- Mali
- Morocco
- Namibia
- Seychelles
- South Africa
- Tanzania
- Tunisia
- Uganda
- Zambia
- Zimbabwe

Motor Control Guidelines



1. Promote accurate, precise selection of targets.

- Make click & tap targets big
- Text link's clickable area includes graphical parts
- Make swipe targets larger than tap targets
- Provide blank space around clickable targets
- Place tap targets in center or bottom of screen
- Place horizontal swipe targets near screen bottom;
and vertical swipe targets on right side

Motor Control Guidelines:

Sizes of click and tap targets



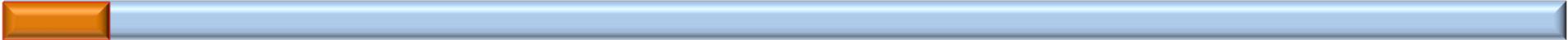
Desktop/laptop devices: click targets should accept clicks in an area at least 11mm diagonally.

Click Targets	Too Small	Big Enough
	Link	Link

Touch-screen devices: tap targets should be 16.5 mm diagonally (11.7mm square)

Tap Targets	Too Small	Big Enough
	Link	Link

Age-Related Changes: Speech & Hearing



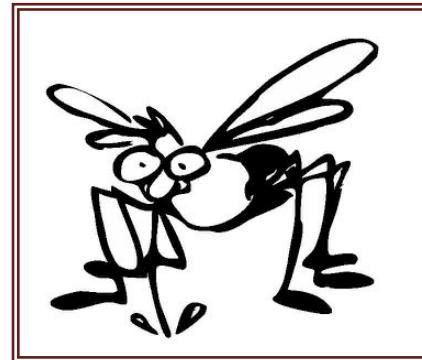
Speech:

- Slower rate of speech
- Reduced articulation

Hearing - harder to:

- Filter out background sounds
- Localize sounds
- Understand fast speech
- Hear low volume sounds
- Detect high-pitched sounds

Speech & Hearing



Everyone:
8 kHz



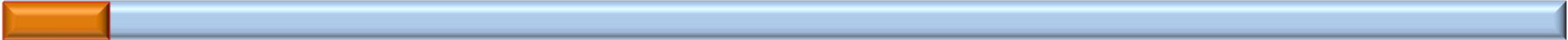
Under 50:
12 kHz



Under 20:
16 kHz



Speech & Hearing Guidelines



1. Make audible signals in a range most people can hear.

- Use alerts, tones in 500-1000 Hz range
- Use lower frequency voices
- Set default volume “loud enough” to be heard by older adults
- Avoid short chirps/beeps (to help localization)

Speech & Hearing Guidelines

2. Convey important info in multiple ways.

- Add captions, ALT text to images
- Add cc, transcripts to videos
- Use video to supplement text, not replace it
- Provide alert signals in multiple forms
- Provide text-to-speech function



[Source:
<http://www.3playmedia.com/how-it-works/how-to-guides/captions-and-subtitles-with-vimeo>

Age-Related Changes: Cognition: Attention, Learning, Memory

- Reduced STM/attention capacity
 - Difficulty keeping track of task status
 - Harder to concentrate; more distractible
- Less effective LTM storage & retrieval of *new* info
 - Longer learning times; more repetition required
- Less generalization between situations
- More difficulty retrieving words
- Reduced ability to multi-task
- More susceptible to change blindness
- More easily overwhelmed

Cognition: Attention, Learning, Memory

“At this point...I would call them. This is so overwhelming!...Help!”

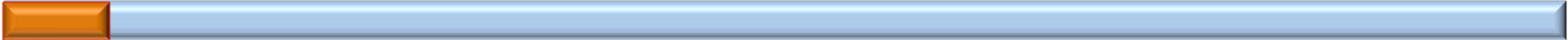
The screenshot shows a website for "River Cruises in Europe - European River Cruising with Grand Circle Travel". The page features several travel packages:

- Eastern Europe to the Black Sea**: Includes Poland, Hungary, Croatia, Bulgaria, Serbia, Austria, Greece, and Romania, Priced from \$2,995.
- Bosnia & Herzegovina: Dubrovnik to St. Petersburg**: Includes Bosnia-Herzegovina, Montenegro, Croatia, Serbia, Greece, and Russia, Priced from \$3,995.
- Countries Visited**: A list including Austria, Belgium, Bulgaria, Croatia, Czech Republic, Estonia, Finland, France, Germany, Hungary, Luxembourg, Netherlands, Poland, Romania, Russia, Serbia, Slovakia, Switzerland, Ukraine.
- Traveler Discussions**: A section for connecting with other travelers who have your passion for travel.
- Find us on Facebook**: A sidebar with the Grand Circle Travel Facebook page, which has 10,129 likes.
- Karlsruhe of the Elbe: Hamburg to Prague**: Includes Germany, Hamburg, Bremen, Fargeport, Berlin, Meissenberg, Hofheim, Dresden, Swiss Alps, Prague, Czech Republic, Priced from \$3,995.
- The Seine: Paris to Normandy**: Includes Paris, Auvers-sur-Oise, Giverny, Rouen, Honfleur, Normandy Beaches, Priced from \$3,995.
- Old World Prague & the Blue Danube**: Includes Romania, Hungary, Slovakia, Slovenia, Vienna, Austria, Prague, Czech Republic, Priced from \$3,995.
- Cruising Burgundy & Provence to the Côte d'Azur**: Includes Paris, Lyon, Arles, Avignon, Interlaken, Nice, Priced from \$3,995.

Cognition: Attention, Learning, Memory Change and Inattentional Blindness

The screenshot shows a travel program page for "Adventures Afloat: India's Holy Ganges River: Rituals, History and the Sacred City of Varanasi". The page includes a sidebar with navigation links like "HOME", "USA", "Africa & Middle East", "Asia", "Australia & South Pacific", "Canada", "Europe", "The Americas & Antarctica", and "Free Catalog", "Special Offers", "Adventures Afloat", "Small Groups", "Donate", "Refer a Friend", and "Online Store". The main content area features a large image of people gathered on a riverbank, with a "Select a Date" dropdown menu open. Below the image, it says "17 Days | 16 Nights" and "ACTIVITY LEVEL: Active". To the right, there's a "Call (800) 454-5768" button, a "Keyword or Program # Go" search bar, and a "Our Value Promise To You" section listing benefits like 14 nights of accommodations and 39 meals. At the bottom, there are sections for "SIGN UP", "Pricing Options", "Select to Add Airfare", "Ratings", "Reviews", and "Support Lifelong Learning".

Cognitive Guidelines



1. Design for conceptual & visual simplicity.

- Minimize stimuli
- Minimize decoration

2. Help users maintain focus.

- Present one task at a time
- Eliminate distractions
- Show current task

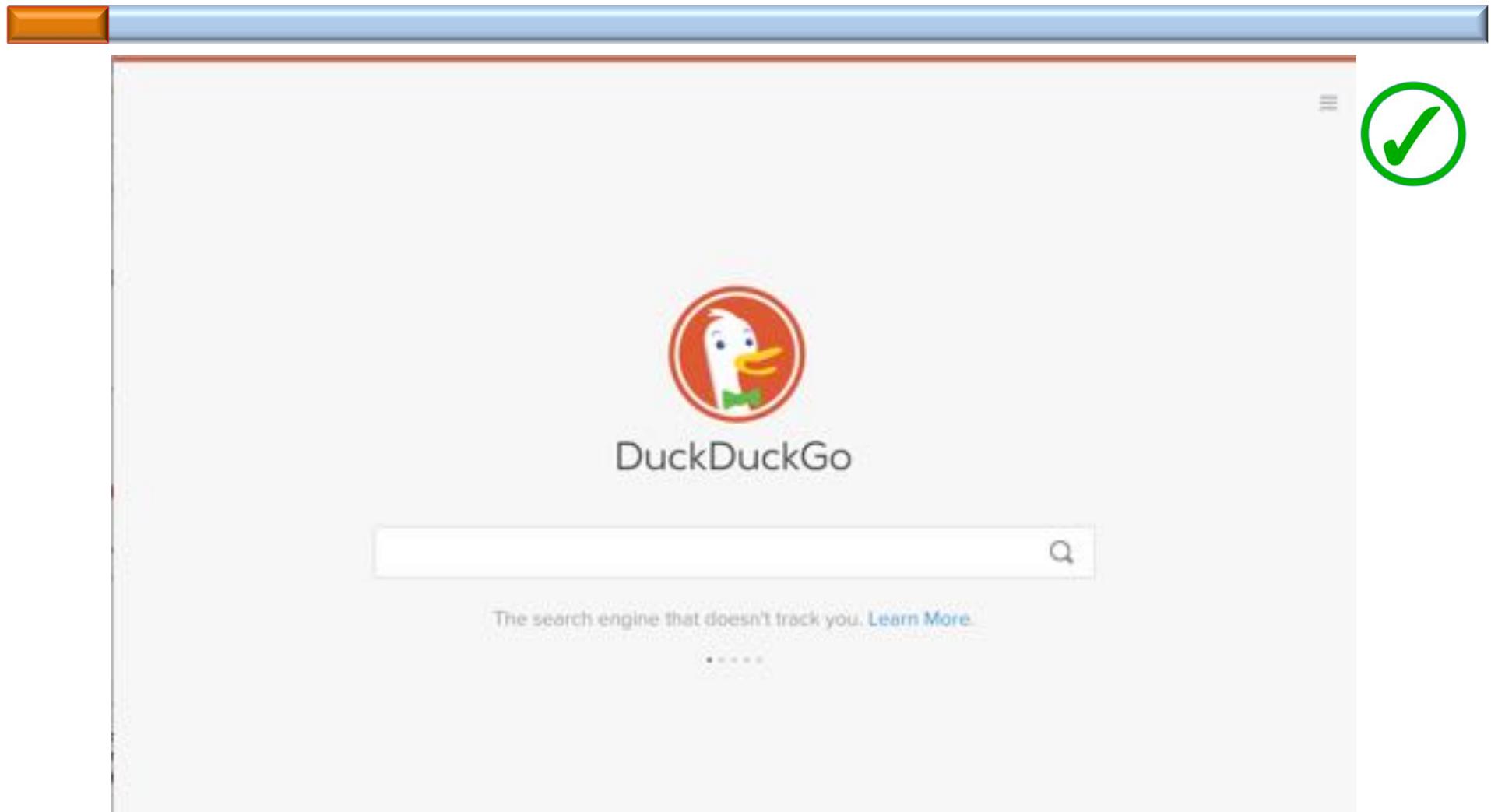
Cognitive Guidelines:

Focus Attention on Important Info & Calls to Action

The screenshot shows the homepage of drugstore.com. At the top, there's a navigation bar with links for 'sign in', 'account', 'help', 'your list™', 'auto-reorder & save', '2 sites 1 bag' (with a shopping bag icon), '0 items \$0.00', and 'checkout'. A large 'FREE SHIPPING' banner is prominently displayed, followed by the text 'on orders over \$35 - EVERY DAY!'. The main header features the 'drugstore.com' logo with the tagline 'the uncommon drugstore'. Below the header is a search bar with the placeholder 'search keyword' and a magnifying glass icon. To the right of the search bar are links for 'pharmacy', 'photo', and 'contact lenses'. A horizontal menu bar includes categories like 'household, food & pets', 'medicine & health', 'personal care', 'beauty', 'baby & mom', 'vitamins', 'diet & fitness', 'sexual well-being', 'fas', 'GNC', 'green & natural', and 'sales & coupons'. Below this menu, five promotional boxes are shown: 'FREE shipping*', 'INSTANT coupons', 'HUGE selection', 'GET 5% back', and '80,000+ products'. A large Valentine's Day promotion on the left offers 'up to 50% off Valentine's Day gifts' with a 'shop now' button. Another section on the right promotes 'Dove' products with a '\$5 off' offer. At the bottom, there are banners for 'BEAUTY.COM' (with '2 sites, 1 bag' and 'Shop Beauty.com for your favorite prestige brands'), 'Walgreens' (with 'NEVER FORGET ANOTHER DOSE' and 'Schedule Pill Reminders on'), and 'ADVERTISEMENT' (with 'Boots' logo and 'The UK's #1 cosmetic & skin care brand'). A red 'X' is overlaid on the top right corner of the screenshot.

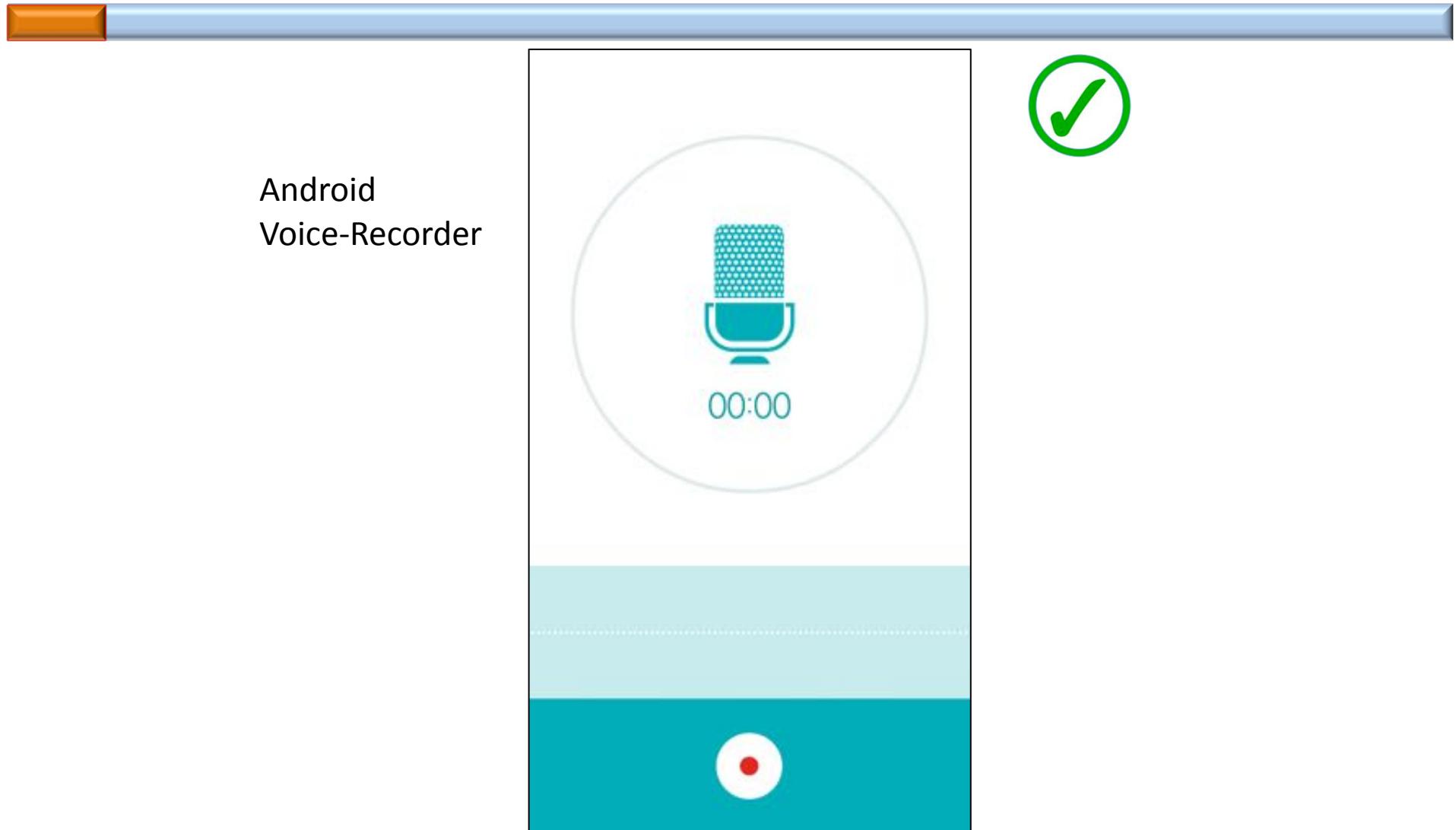
Cognitive Guidelines:

Focus Attention on Important Info & Calls to Action



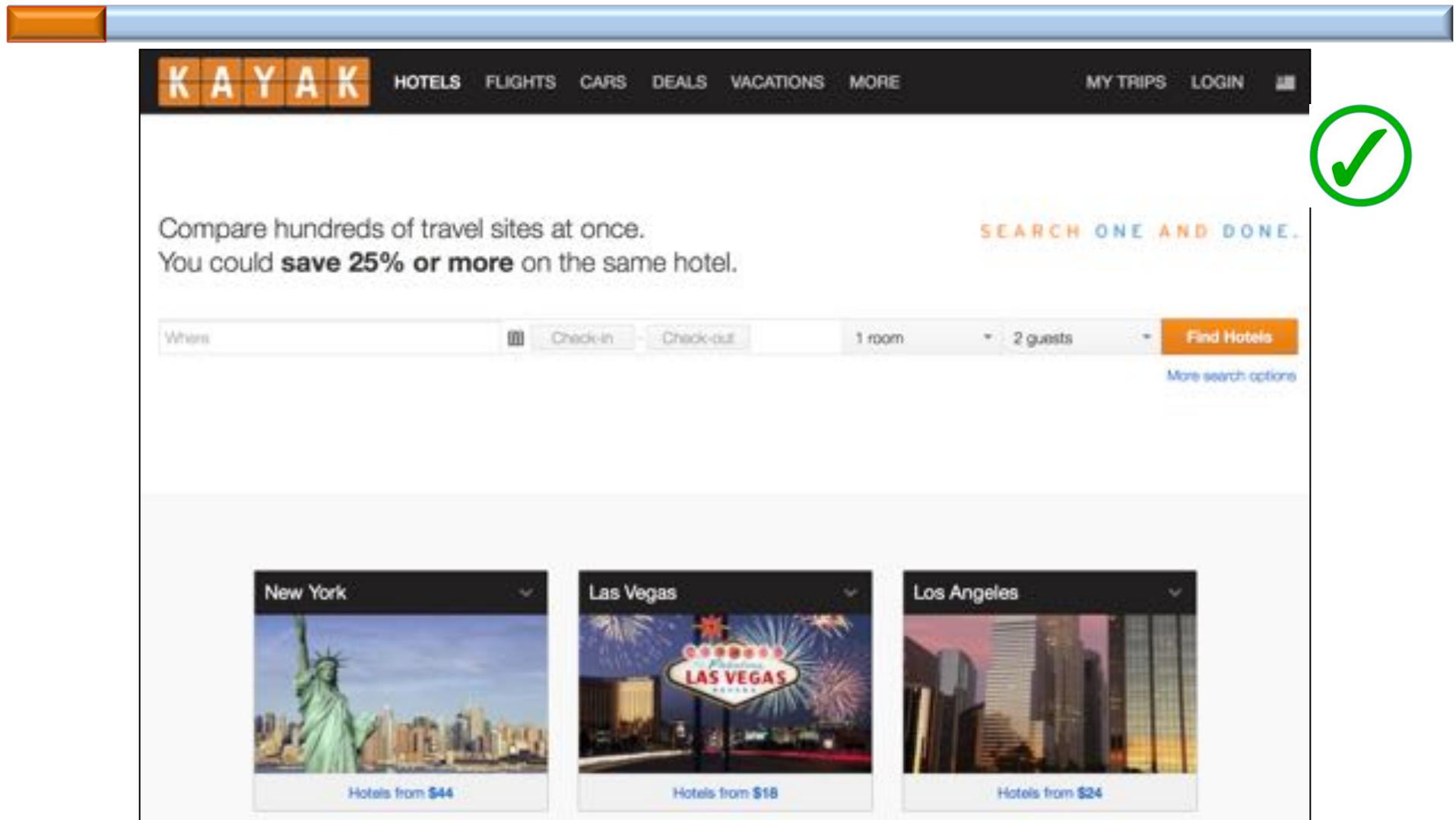
Cognitive Guidelines:

Focus Attention on Important Info & Calls to Action



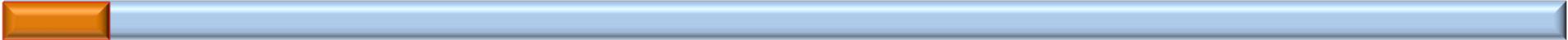
Cognitive Guidelines:

Focus Attention on Important Info & Calls to Action



A screenshot of the Kayak website homepage. The top navigation bar includes links for HOTELS, FLIGHTS, CARS, DEALS, VACATIONS, MORE, MY TRIPS, and LOGIN. A large orange button is visible on the left side of the header. Below the header, a promotional message reads: "Compare hundreds of travel sites at once. You could **save 25% or more** on the same hotel." To the right of this message is a green circle containing a white checkmark. The text "SEARCH ONE AND DONE." is displayed in a stylized font. Below the promotional message is a search form with fields for "Where", "Check-in", "Check-out", "1 room", "2 guests", and a prominent orange "Find Hotels" button. A link "More search options" is located just below the search form. At the bottom of the page, there are three cards showing travel deals: "New York" (Hotels from \$44), "Las Vegas" (Hotels from \$18), and "Los Angeles" (Hotels from \$24). Each card features a small image of a city skyline.

Knowledge Differences



- Unfamiliar with digital tech jargon & icons
- Don't know control gestures
- Antiquated mental models
 - Based on technology generation
- *Greater* domain knowledge
 - Skills
 - Vocabulary

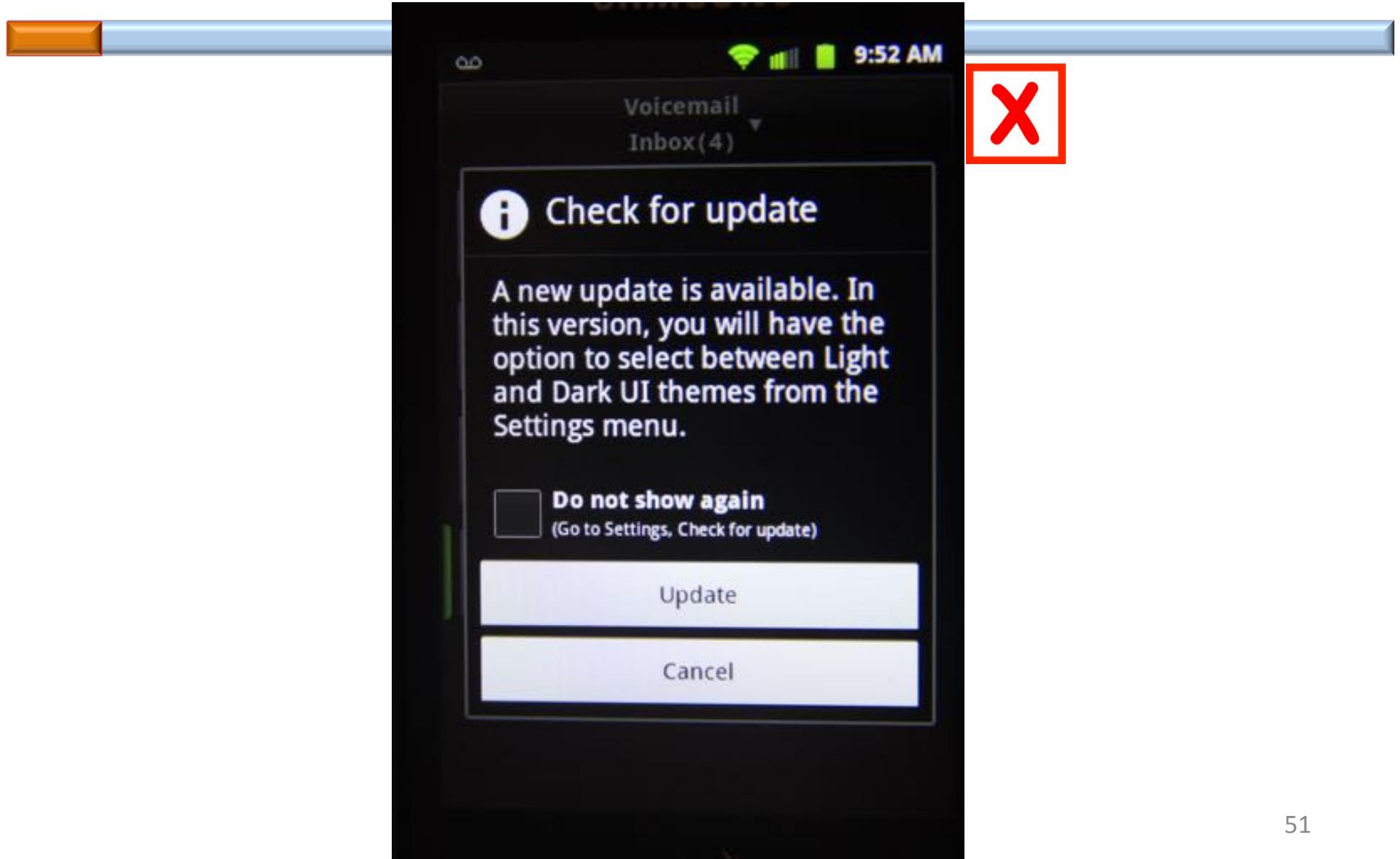
Knowledge Guidelines:

Use vocabulary familiar to your audience.



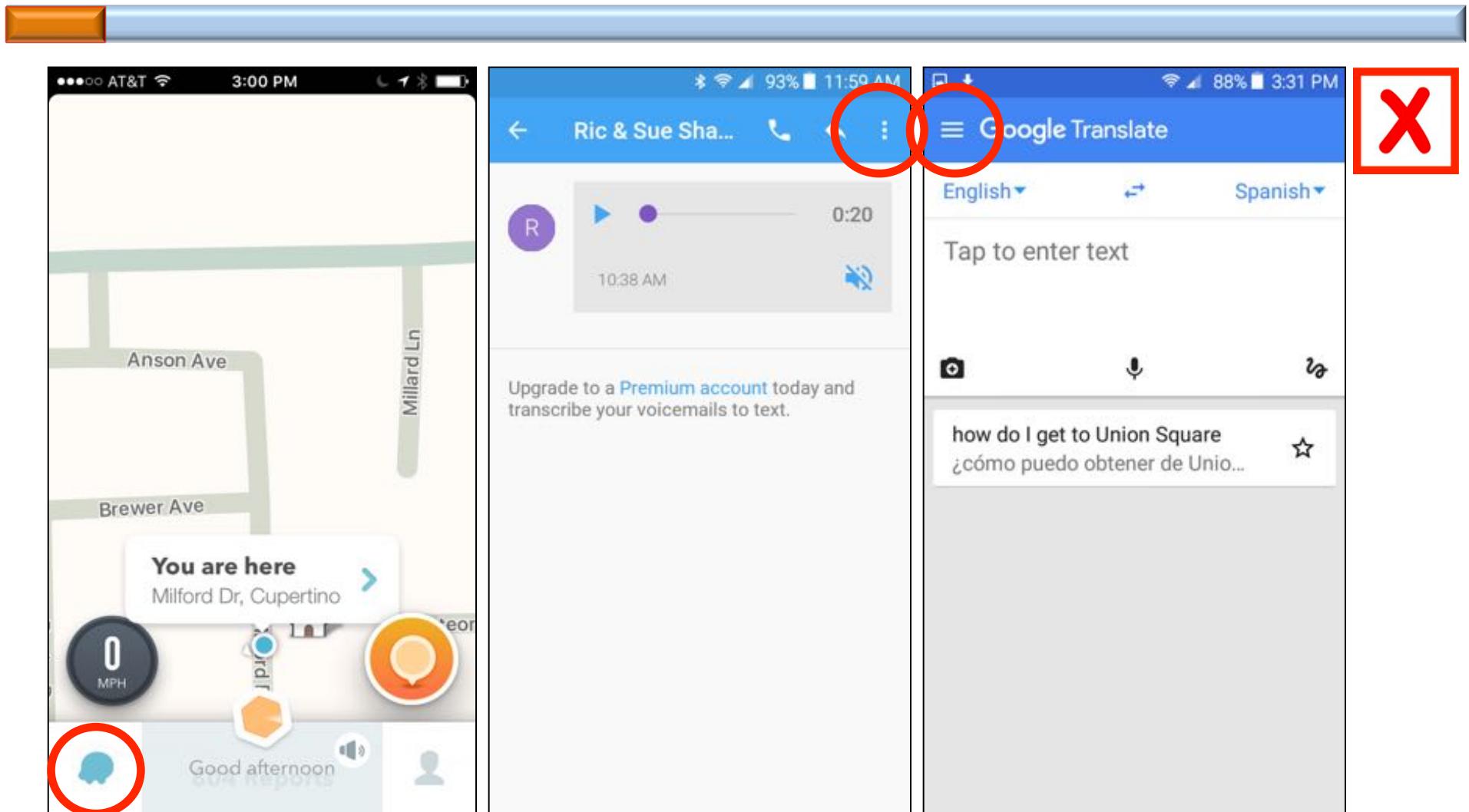
Knowledge Guidelines:

Use vocabulary familiar to your audience.



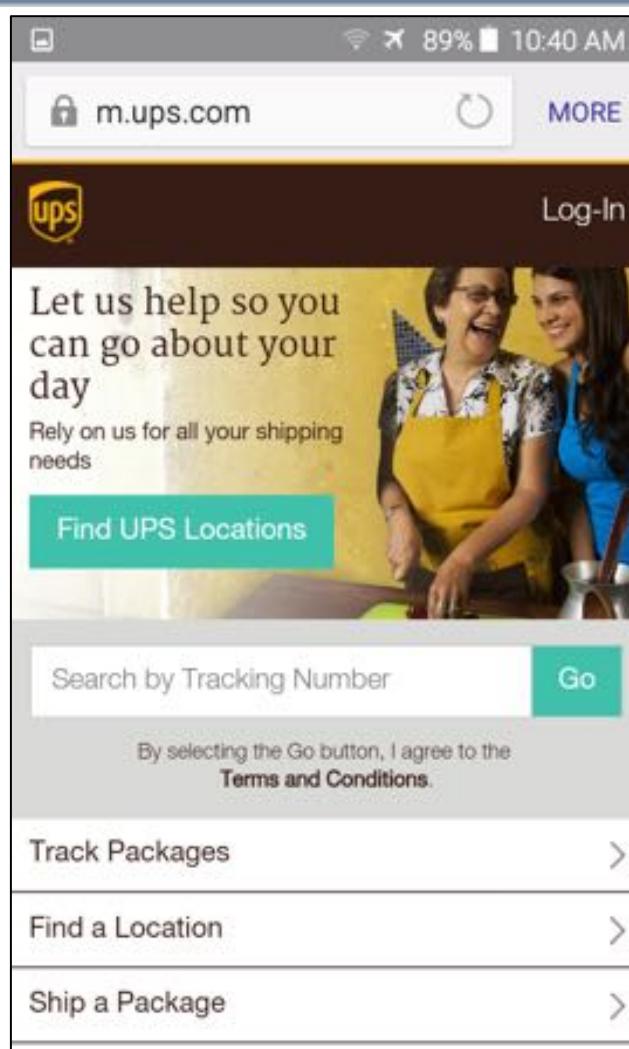
Knowledge Guidelines:

Use **visual** vocabulary familiar to your audience.

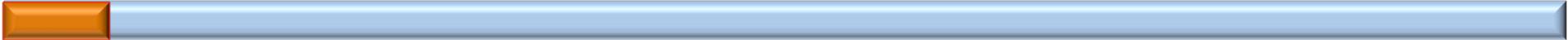


Knowledge Guidelines:

Use vocabulary familiar to your audience.



Age-Related Differences: Attitude

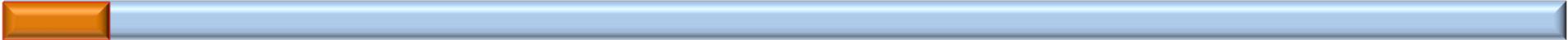


- Less comfortable with technology
- More risk averse
 - Strongly prefer familiar paths over efficiency
 - Afraid of “breaking something”
 - Tend to read everything on screen before acting
 - Afraid of embarrassment
- Often get frustrated, give up
- Tendency to assign blame (to self or app)
- Reluctance to give personal info

Frustration (wants to quit): “I would screw this.”

The screenshot shows a Microsoft Dynamics CRM interface. At the top, there's a navigation bar with links like 'Home', 'New', 'List', 'Search', 'Dashboard', 'Workspaces', 'Help', and 'Logout'. Below the navigation, a sidebar on the left lists categories: 'Lead & Case', 'Sales & Service', 'Marketing & Events', 'Finance & Accounting', 'Human Resources', 'Project Management', 'Customer Relationship Management', and 'Community'. The main content area displays a contact record for 'Mike Davis' (Category: F 33333333). The contact details include: First Name: Mike, Last Name: Davis, Title: Sales Manager, Phone: +1 800 555 5555, Email: mikedavis@contoso.com, and a note: 'Last name must contain at least one vowel'. Below the contact info is a section titled 'Recent Activities' with a 'View all' link. At the bottom of the page, there are sections for 'Recent Contacts', 'Recent Cases', 'Recent Leads', 'Recent Opportunities', 'Recent Projects', 'Recent Customers', 'Recent Sales Orders', and 'Recent Invoices'. A footer at the bottom contains links for 'Log On', 'Dynamics CRM', 'Community', 'Help', 'Feedback', 'Privacy Statement', 'Terms of Use', 'Copyright © 2010 Microsoft Corporation or its Affiliates. All Rights Reserved. Microsoft, the Microsoft logo, Microsoft Dynamics, and the Microsoft Dynamics logo are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.', and 'Microsoft Dynamics CRM Version 4.0'.

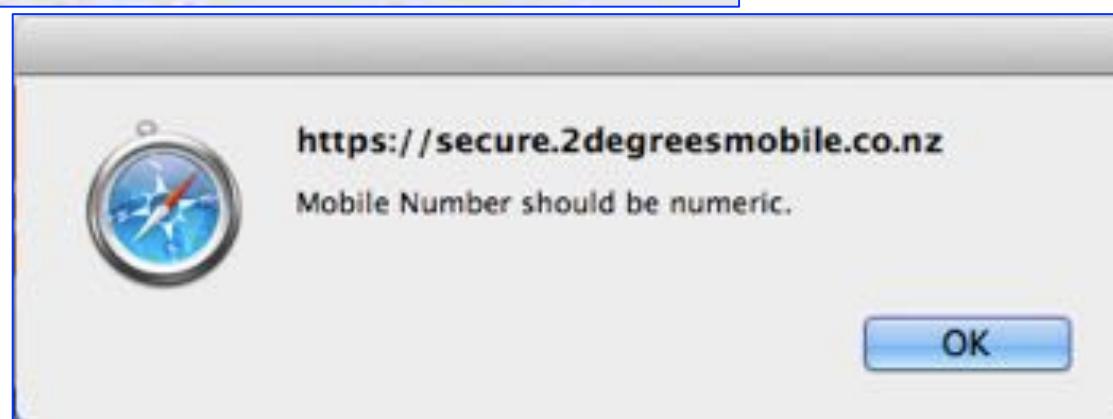
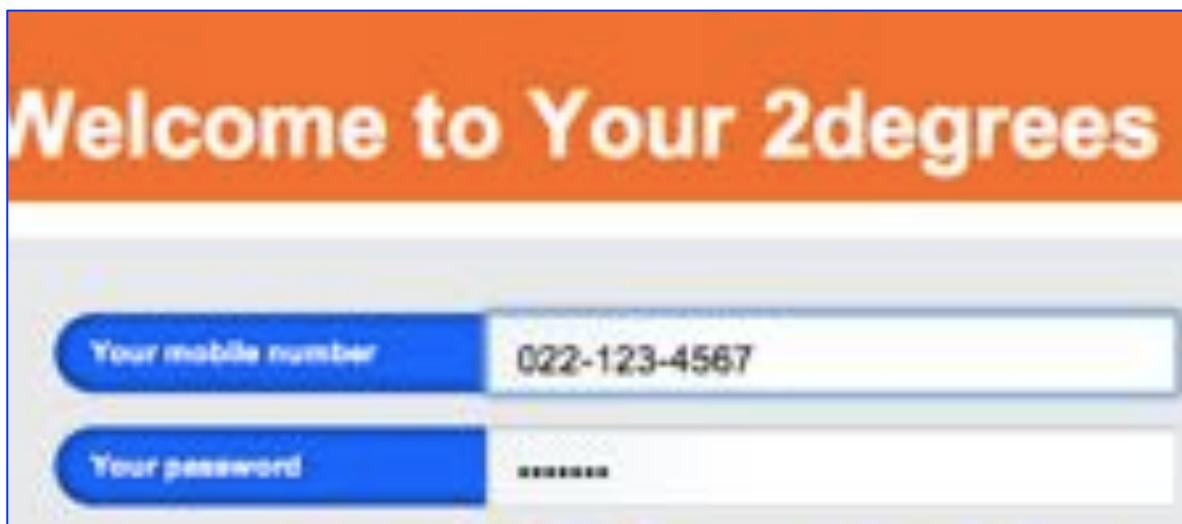
Attitude Guidelines



1. Be flexible in how users can enter, save, and view data.
 - Make data entry fields “smart”
 - Allow users to save and return to forms
 - Give users sense of control over input methods

Attitude Guidelines:

Be flexible in how users can enter, save, and view data



Attitude Guidelines:

Be flexible in how users can enter, save, and view data



Primary Contact Information

Enter the phone number(s) where you'd like to be contacted in case there are any issues regarding this reservation. At least one number is required. We'll send a purchase confirmation, sales receipt and eTicket (if available) to the e-mail address(s) you provide.

My Phone number is US/Canadian.

Mobile Phone Number Include area code; any format

Home Phone Number

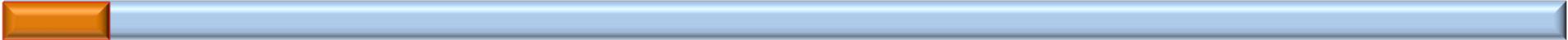
Business Phone Number Ext

E-Mail Address* e.g., John@domain.com

Confirm E-Mail*

Additional E-mail

Attitude Guidelines



2. Inspire trust.

- Request only necessary info
- Make it easy to distinguish content from ads

Attitude Guidelines:

Request only necessary info

Philippine Airlines frequent flyer registration form requires unnecessary information.



What are your favorite
leisure interests and
activities?*

[Leisure Interests and Activities] ▾

if others

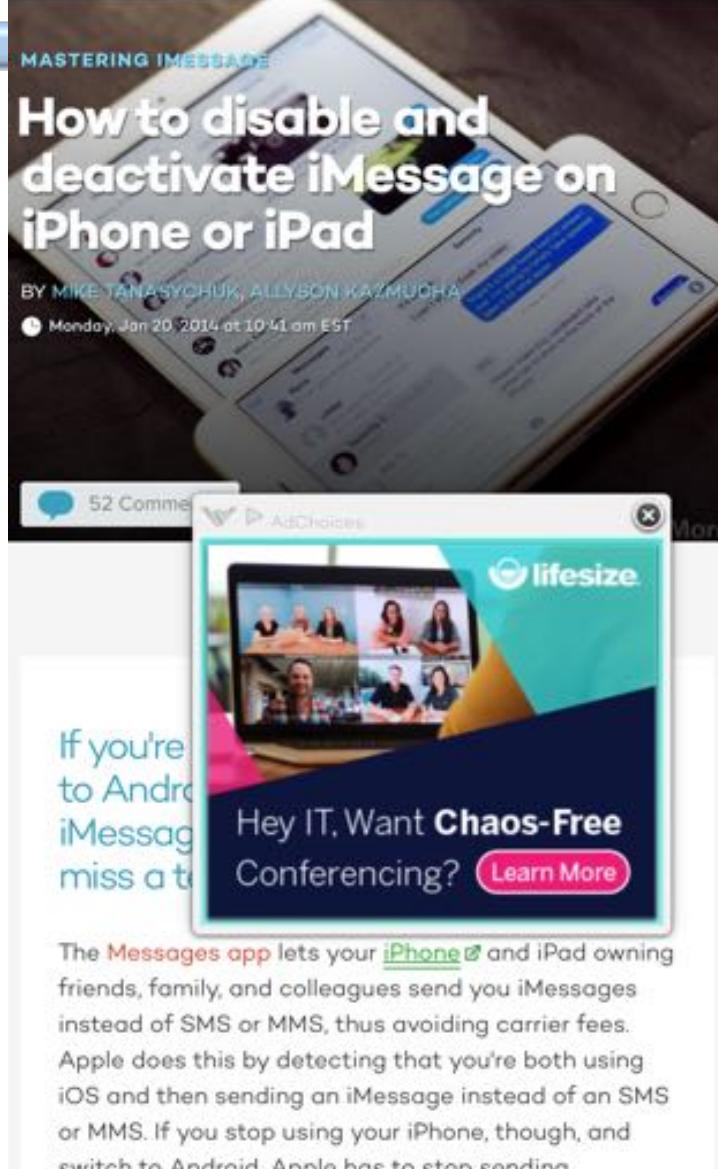
What are your favorite
sports?*

[Sports] ▾

if others

Attitude Guidelines:

Make it easy to distinguish content from advertising



MASTERING iMESSAGE

How to disable and deactivate iMessage on iPhone or iPad

BY MIKE TANASYCHUK, ALLYSON KAZMUCHA

• Monday, Jan 20, 2014 at 10:41 am EST

If you're switching to Android, turn off iMessage so you don't miss a thing.

Hey IT. Want Chaos-Free Conferencing? [Learn More](#)

The **Messages app** lets your **iPhone** and iPad owning friends, family, and colleagues send you iMessages instead of SMS or MMS, thus avoiding carrier fees. Apple does this by detecting that you're both using iOS and then sending an iMessage instead of an SMS or MMS. If you stop using your iPhone, though, and switch to Android, Apple has to stop sending

61

Summary



- % and # of older adults are increasing globally
- Age-related characteristics can contribute to many usability issues
- Usability issues can exclude people from benefits of today's digital culture
- Other populations face similar usability issues and exclusions
- Designing for older adults can improve usability for everyone
- Research identifies design guidelines

Thank you!!

Johnson & Finn:
*Designing User Interfaces
for an Aging Population:
Towards Universal Design*

Elsevier/Morgan Kaufmann

Contact:

jajohnson9@usfca.edu

