

Fluid Navigation

YING SHEN

SCHOOL OF SOFTWARE ENGINEERING

TONGJI UNIVERSITY

Outline

Introduction

Navigation by selection

Small displays

Content organization

Audio menus

Form fill-in and dialog boxes

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Introduction

Navigation enables users to know where they are and to steer themselves to their intended destination

Navigation is about getting work done through a series of actions

- Key to successfully operating interactive applications

The goal for designers is to enable fluid navigation that allows users to get to where they want to go



Introduction

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关于开展2021年度同济大学市级及校级 优秀毕业生评选工作的通知 (本科生)

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为全面落实全国教育大会和全国高校思想政治工作会议精神,按照《普通高等学校学生管理规定》(教育部第41号令)等文件对德智体美劳全面发展、表现突出的学生给予表彰和奖励的要求,充分发挥优秀大学生的示范激励引领作用,引导大学生树立正确的成长观和择业观,根据《同济大学本科优秀毕业生评定细则(2018年修订)》(同济学[2018]57号)要求和学校优秀毕业生评选相关工作安排,现启动2021年度优秀毕业生评选工作。现将软件学院本科生优秀毕业生评选有关事项通知如下:

一、评选对象:

同济大学软件学院2021年应届本科毕业生。

二、评选条件:

- 1.具有坚定正确的政治方向,德智体美劳全面发展。
- 2.遵纪守法、品德优秀,诚信意识较强和学术道德良好,在校期间未受过处分,无不良信用记录。
- 3.按时修完教学计划中的全部学业,学习勤奋、成绩优异,积极参加社会实践和志愿服务,具有较强的实践和创新能力。
- 4.具有正确的就业观和择业观,对响应国家号召献身国防事业,自愿赴西部、边远、贫困地区和艰苦行业等基层和重点领域、新兴领域、国际组织就业的毕业生,优先推荐评选。
- 5.原则上应获得过校级以上荣誉,或在某一方面表现突出,成绩显著或作出突出贡献。
- 6.具体评选细则参照《同济大学本科优秀毕业生评定细则(2018年修订)》。

三、软件学院优秀毕业生名额分配

- 1.上海市优秀毕业生11名
- 2.同济大学优秀毕业生11名

Introduction

Navigation techniques include menus, embedded links, or tool palettes

The screenshot shows the homepage of the "School Of Software Engineering of Tongji University". The top navigation bar includes icons for Home, Overview, Faculty, Education, Research, International Exchange, Party Building, Student Work, Alumnus Contact, Resource Sharing, and Information Center. The Information Center tab is highlighted with a blue background. Below the navigation bar, the school's name is displayed in Chinese and English. A sidebar on the left lists categories: 学院新闻, 学院活动, and 学院通知, with further sub-categories for Undergraduate, Graduate, Staff, and General notices. The main content area displays a list of news items under the 学院通知 category.

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- 学院通知
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- 同济大学软件学院第六届国际青年学者论坛通知
- 软件学院关于 2020-2021 学年第二学期本科生校级助学金、大学生成才助学金考核通知
- 关于组织开展“永远跟党走”迎接中国共产党建党100周年主题征文比赛通知
- 【研究生】2021年度同济大学优秀毕业研究生评选工作通知
- 关于开展2021年度同济大学市级及校级 优秀毕业生评选工作的通知 (本科生)
- 关于做好2021年度适龄学生兵役登记的通知
- 关于做好2021年学生寒假放假及春季学期开学等工作安排的通知
- 关于开展“同心筑梦，济世中华” 2021年寒假返乡路费资助项目的通知

Introduction

Users can touch, tap, or swipe of the figures to indicate their choices

Careful design, keyboard shortcuts, and gestures allow expert users to navigate quickly



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Navigation by selection

Choices can be presented explicitly

- Embedded links of webpages were first popularized in the Hyperties system
- Highlighted names, places became menu items embedded in text

The screenshot shows the Sina Weibo homepage with several examples of embedded navigation:

- Header Navigation:** A horizontal menu bar at the top includes links for News, Sports, Finance, Technology, and various sub-categories like NBA,明星 (Famous Stars), and 新车 (New Cars).
- Search Bar:** A search bar displays the query "大家正在搜: 讨聘礼厮打引警察" (Everyone is searching: Persuasion礼, Struggle厮打, Induce Police), with "讨聘礼" highlighted.
- Weather and Location:** A weather widget for Shanghai shows "14°C" with a sun icon.
- Advertisement Bar:** A red banner at the bottom of the page features the text "装修就来华夏家博会" (For renovation, come to Hua Xia Home Expo) and "2018中国房企500强" (Top 500 Chinese Real Estate Developers in 2018).
- Content Selection:** In the main news feed, several articles are shown with their titles partially highlighted:
 - "装修就来华夏家博会" (highlighted)
 - "2018中国房企500强"
 - "17平小窝改5居"
 - "工长工厂装修直销惠"
 - "老房爆改二居变三居"
 - "优选装修好工省心"
 - "低价精品好房推荐"
 - "上海低价轨交房"
 - "开年装修抢优惠"
 - "装修工程款全额补贴"
 - "小开间也能精装修"
 - "神改造阳台变卧室"
 - "90m²装出大空间"
 - "如何在国外买好房"
 - "装修月月有补贴"
 - "半包装修立减1000元"
- Category Selection:** Below the main feed, there are tabs for "图片" (Images), "专栏" (Columns), and "热点" (Hot Topics). The "图片" tab is active, showing three thumbnail images: "东北暴雪西安入夏" (Northeast snow, Xi'an summer), "高速上演“车歪歪”" (Highway car accident), and "渔民花12万祭海" (Fishermen spend 120,000 yuan to sacrifice to the sea).
- News Selection:** On the right side, a vertical column of news headlines is displayed, each with a small thumbnail image:
 - 中共中央举行党外人士座谈会 习近平发表讲话
 - 5年两会 习近平牵挂的那些百姓“操心事”
 - 人民日报：保证党和国家长治久安的重大制度安排
 - 如何理解我国宪法序言及其法律效力 理上网来
 - 马斯克发推盛赞“中国基建效率是美国100倍” 暖新闻
 - 高速路上的夜巡(图) 新春走基层 新时代新气象新作为
 - 89岁代表申纪兰：被称中国资格最老“国会议员”
 - 陈毅元帅之子陈小鲁昨日辞世 对自己临终事宜早有安排

Navigation by selection

Choices can be presented explicitly

- Graphical techniques are an attractive way to present choices

上海 > 搜电影、演出、影院

正在热映 影院 即

实时票房 今日大盘 5

影城卡 | 累计节省114元 今日已使用0

上海嘉定同济横店电影城
嘉定区嘉松北路嘉实生活广场3层 · 1.1km
好评度 89% · 观影小食 · 儿童优惠

场次 小食 ¥5.4起

2号厅 银幕

抽10000张免费电影票

大片随心看 超省钱

看电影 | 热映影片 即将上映

3D IMAX 2D 中国巨幕

明天 04-02 后天 04-03 周日 04-04 周一

上海 全城 筛选

上海嘉定同济横店电影城

好评度89% 嘉定区嘉松北路嘉实生活广场3层

已开通影城卡 观影小食 双机3D 可停车

当日场次: 13:15 | 14:40 | 15:35 | 16:55

阿凡达 9.3

162分钟 | 动作 | 萨姆·沃辛顿、佐伊·索尔达娜、米歇尔·罗德里格兹

今天 04-01 明天 04-02

88VIP 88VIP每张票减4元

影城卡 累计节省114元

11:50 英语 3D 到手价 ¥ 28起

14:32 散场 2号厅 卡已抵¥6

21:20 英语 3D 到手价 ¥ 28起

为了疫情防控，观影需全程佩戴口罩，影厅内禁止…

阿凡达 明天 04月02日 10:15-12:57 英语 3D 收起场次

汽车城瑞立影院

好评度94% 嘉定区安亭镇博园路6990弄52号

影城卡 可退票 可改签 可停车

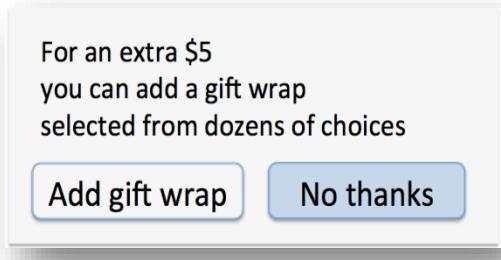
当日场次: 12:20 | 13:20 | 15:35 | 17:50 | 20:00 ...

我在: 上海市嘉定区绿苑路644号同济大学嘉定校

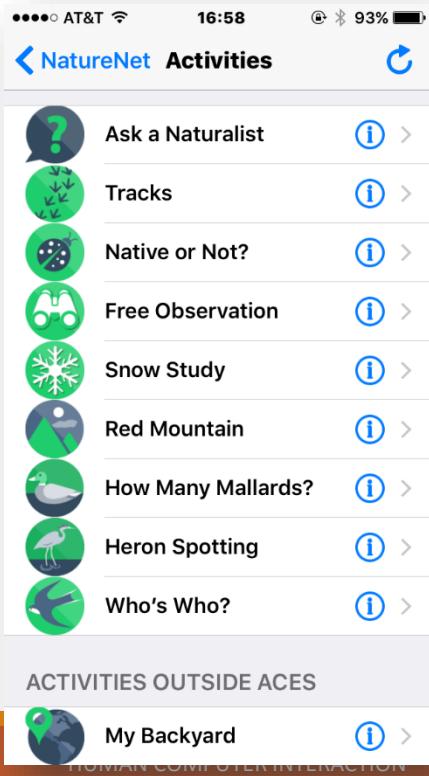
首页 想看

Navigation by selection

Binary menu



Grid menu



Navigation by selection

Series of choices

- Radio Buttons and Checkboxes

Does anyone in your household currently smoke?

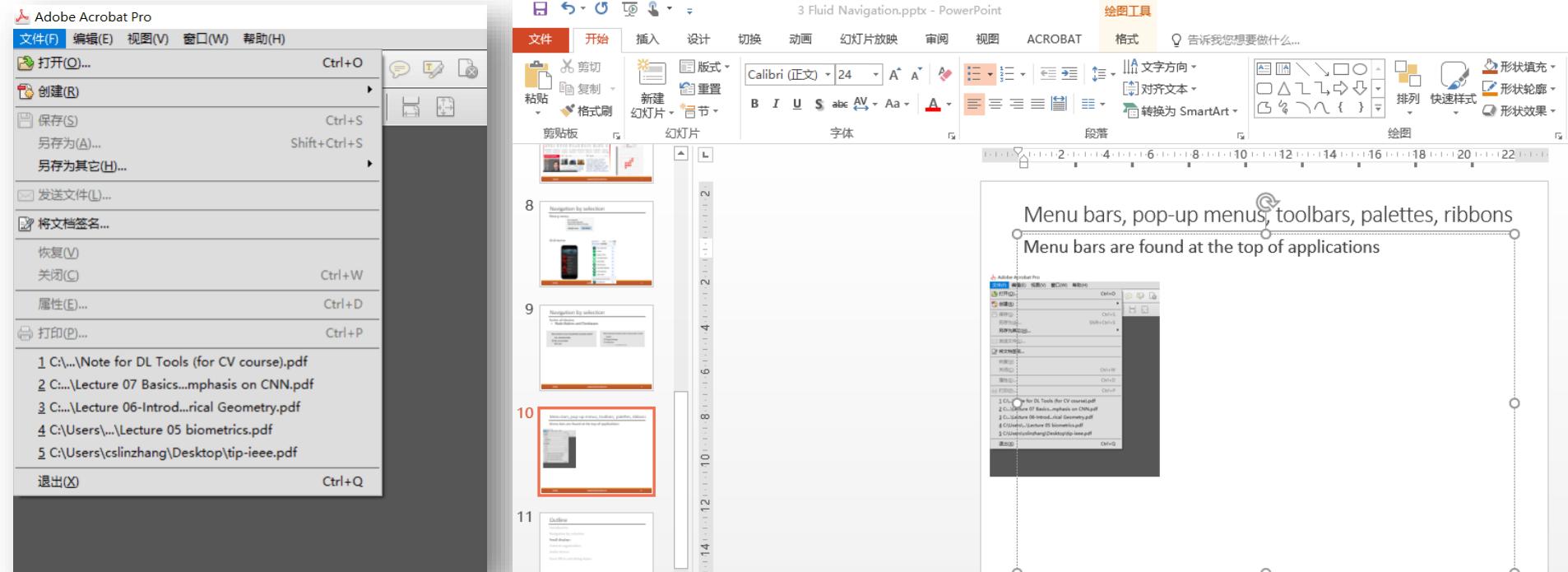
- Yes, someone does
- No, no one does
- Not sure

What treatment would you like to discuss with a nurse?

- Surgery
- Physical therapy
- Medication
- Acupuncture (not available in your area)

Menu bars, pop-up menus, toolbars, palettes, ribbons

Menu bars are found at the top of applications or both at the top and on the side of the screen





Menu bars, pop-up menus, toolbars, palettes, ribbons

Palettes are displayed on right or left and is mainly used to color the screen or modify the window and several icons are present on the window.



Menu bars, pop-up menus, toolbars, palettes, ribbons

Accordion menus

- Advantages: Users don't have to scroll too far to find submenu items
- Disadvantages: When the menu structure is too deep, it's not easy for users to find the target item



Menu bars, pop-up menus, toolbars, palettes, ribbons

Large submenus are expanded below or to the side

The screenshot shows the Amazon.cn homepage with a prominent search bar at the top. Below the search bar is a navigation menu with links like '我的亚马逊' (My Amazon), 'Z秒杀' (Z-kill), '礼品卡' (Gift Card), '我要开店' (I want to open a store), '海外购' (Global Purchase), '帮助' (Help), and 'In English'. On the left, there's a sidebar with categories such as 'Kindle 商店', '亚马逊海外购' (highlighted in orange), '图书', '手机、摄影、数码', etc. A large, semi-transparent white box is overlaid on the page, containing the title '亚马逊海外购' in orange. This box lists various product categories: '母婴用品' (Baby products) with links to '奶粉' (Milk powder), '喂养用品' (Feeding supplies), '安全防护' (Safety protection), '外出用品' (Travel supplies), and '童车推车' (Strollers); '玩具' (Toys) with links to '婴幼儿玩具' (Infant and toddler toys), '电子玩具' (Electronic toys), '拼插玩具' (Puzzle toys), and '动漫玩具' (Cartoon toys); '服装服饰' (Clothing and apparel) with links to '男装' (Men's clothing), '女装' (Women's clothing), '休闲装' (Casual wear), '内衣家居服' (Intimate apparel and home wear), and '婴幼儿服' (Infant and toddler clothing); '鞋靴' (Shoes) with links to '男鞋' (Men's shoes), '女鞋' (Women's shoes), '男童鞋' (Boys' shoes), and '女童鞋' (Girls' shoes); '皮具箱包' (Leather goods and luggage) with links to '单肩包' (Shoulder bag), '钱包' (Wallet), '双肩包' (Double shoulder bag), and '皮带' (Belts); '运动户外' (Sports and outdoors) with links to '运动服饰' (Sports apparel), '户外背包' (Outdoor backpacks), '健身训练' (Fitness training), '智能穿戴' (Smart wearables), and '跑步' (Running); '美容化妆' (Beauty and cosmetics) with links to '面部护肤' (Facial skincare), '彩妆' (Cosmetics), '美发护发' (Hair care), '身体护理' (Body care), and '工具配件' (Tools and accessories); '个护健康' (Personal care and health) with links to '眼睛护理' (Eye care), '保健品' (Supplements), '剃须用品' (Shaving supplies), and '口腔护理' (Oral care); '厨具' (Kitchenware) with links to '水具' (Water tools) and '酒具' (Wine tools); '进口直采' (Import direct purchase) with links to '鞋靴' (Shoes), '箱包' (Luggage), '珠宝首饰' (Jewelry), '服饰' (Apparel), '腕表' (Watches), and '酒水' (Alcohol); '食品' (Food), '居家' (Home), '母婴玩具' (Infant and toddler toys), and '数码影音' (Digital audio and video). At the bottom of this box, there's a red banner with the text '热销排行榜' (Best-seller ranking) and a grid of brand logos including NUK, new balance, Valley, LODGE, como tomo, TISSOT, PHILIPS AVENTIL, ARMANI JEANS, ASUS, THERMOS, and a link to '点击查看' (View details). The background of the page shows a blurred image of a laptop screen.

Menu bars, pop-up menus, toolbars, palettes, ribbons

The limited screen space of mobile devices leads to limited items

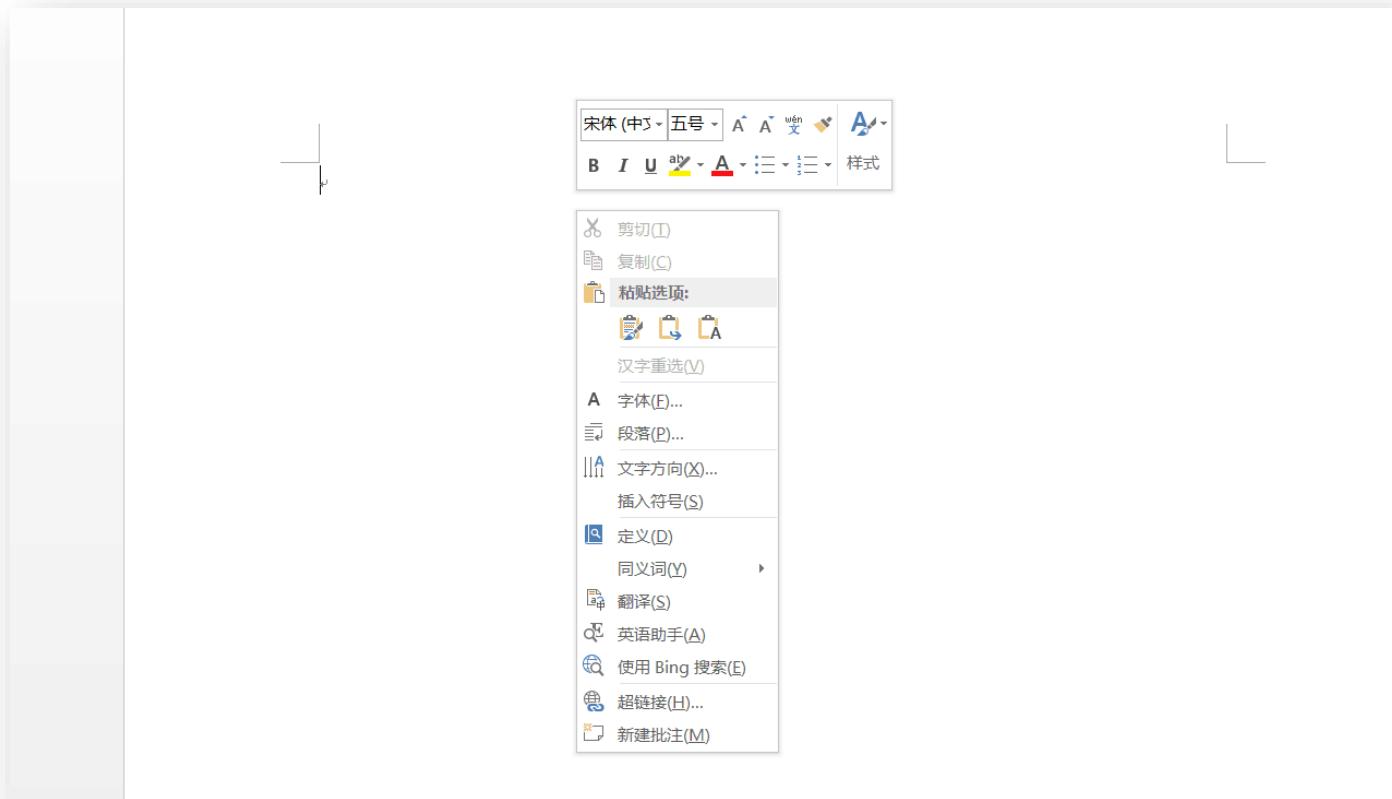
Menu items are moved into a separate screen that is accessible from a main menu icon  (*hamburger menu icon*)



Menu bars, pop-up menus, toolbars, palettes, ribbons

Pop-up menus appear when clicking or tapping with a pointing device

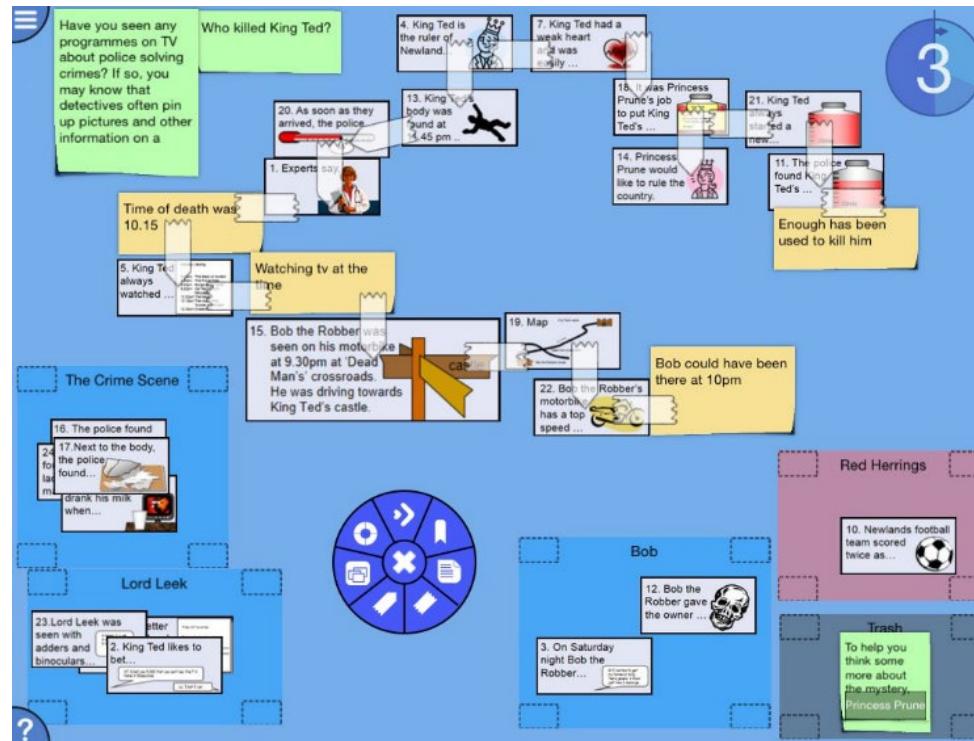
When the content of the pop-up menu depends on the cursor position, it is called a **context menu**



Menu bars, pop-up menus, toolbars, palettes, ribbons

Pop-up menus can also be organized in a circle to form *pie menus*

- Advantages: The average distance to travel to select an item is smaller than linear menus

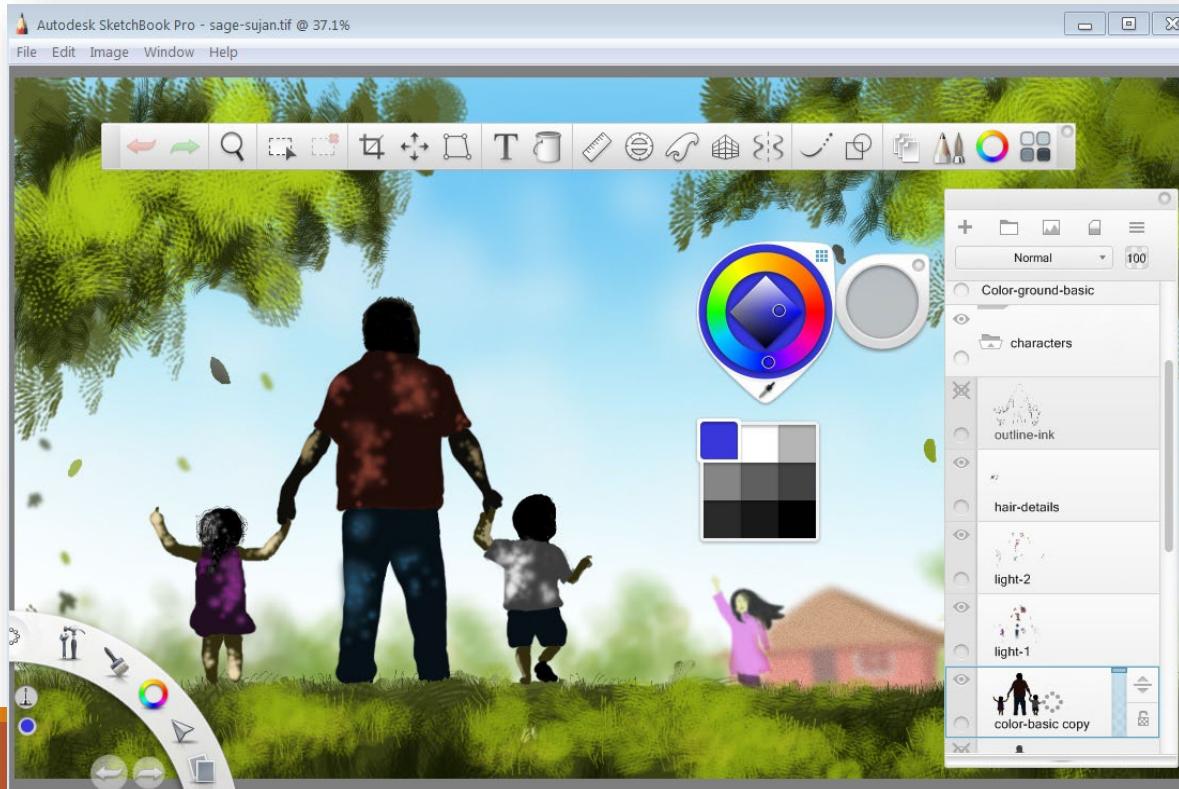


Menu bars, pop-up menus, toolbars, palettes, ribbons

Toolbars, iconic menus, and palettes can offer many actions that users can select with a click and apply to a displayed object

Users need to be able to customize toolbars

- Users can eliminate most or all the toolbars and palettes to conserve screen space
- Experts can have dense menus with many small icons



Menu bars, pop-up menus, toolbars, palettes, ribbons

Ribbons were introduced in Office 2007

Ribbons attempt to replace menus and toolbars by one-inch tabs grouping commands by task



Shortcuts and gestures for rapid interaction

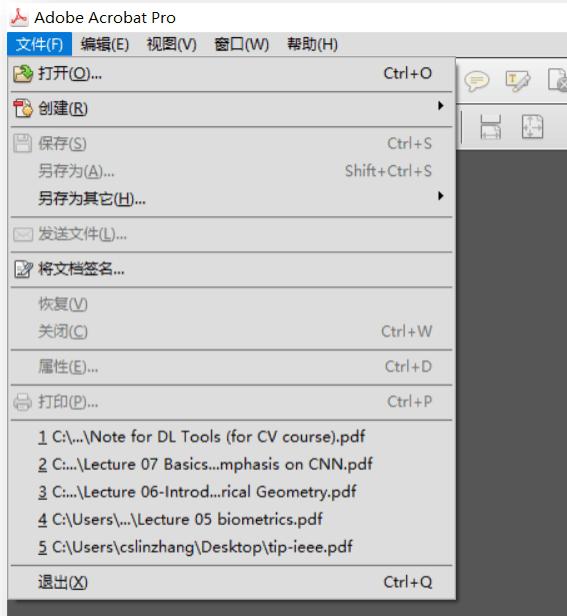
Keyboard shortcuts/hotkeys are essential for expert users

- Ctrl-C, Ctrl-V, etc

The first letter of the command is often used for the shortcut

Shortcuts should be used consistently across applications

Learning shortcuts is one useful way to reaching expert performance



Shortcuts and gestures for rapid interaction

Since typing keyboard shortcuts become impractical with touchscreen devices, gestures often serve as a shortcut for rapid selection

Gestures can be hard to discover and learn and have few or no affordances

Careful design and use of gestures can lead to fluid navigation for expert users but cause frustration when actions are triggered inadvertently

Allowing users to customize the gestures may help users remember them and provide better accessibility

Shortcuts and gestures for rapid interaction

Examples of common gestures and their effect:

- Tap: select
- Long press: varied, from magnified cursor (iOS) to showing a tooltip (Windows 8)
- Double tap: varied, e.g. zoom (iOS)
- Small swipe: varied, e.g. move location or order of objects, reveal a delete button
- Large swipe: usually scroll
- Rapid swipe or fling: fast scroll with inertia
- Pinch and spread: zoom in and out
- Variation with two or more fingers: varied effects

Long lists

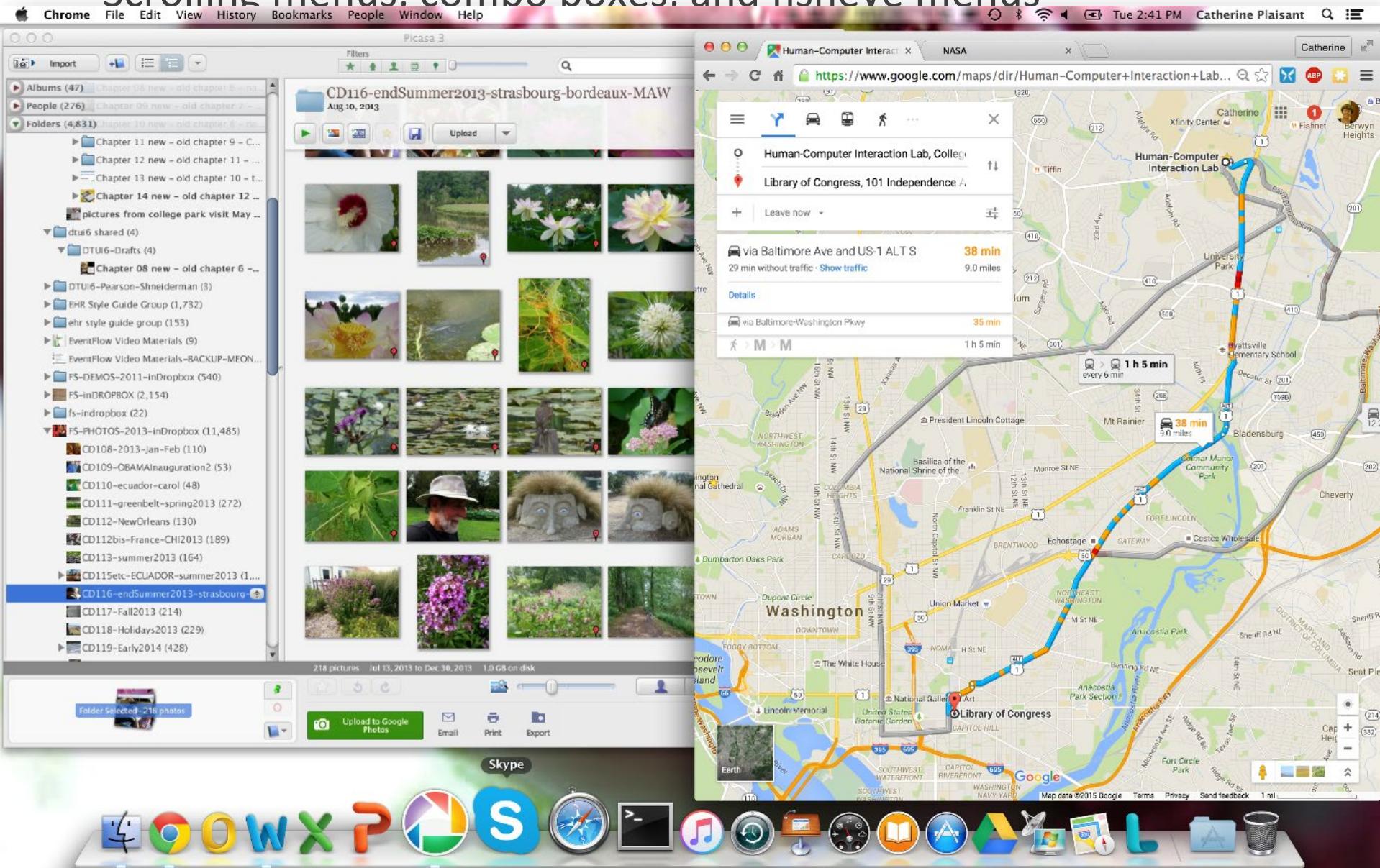
Sometimes the menu items may be too long to be displayed

A common solution is to create a tree-structured menu

Typical lists are alphabetically ordered, but categorical lists may be useful

Long lists

Scrolling menus. combo boxes. and fisheye menus



Long lists

Sliders and alphasliders

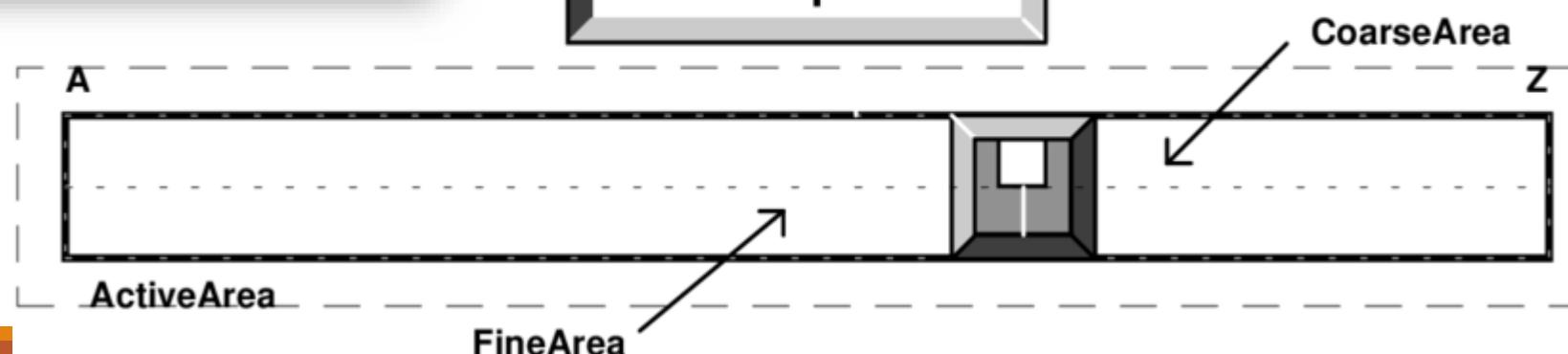
- When items consist of ranges or numerical values, a slider is a natural choice to allow the selection of a value
- The alpha-slider uses multiple levels of granularity in moving the slider thumb and therefore can support tens or hundreds of thousand of items

Team
(All)

Player Name

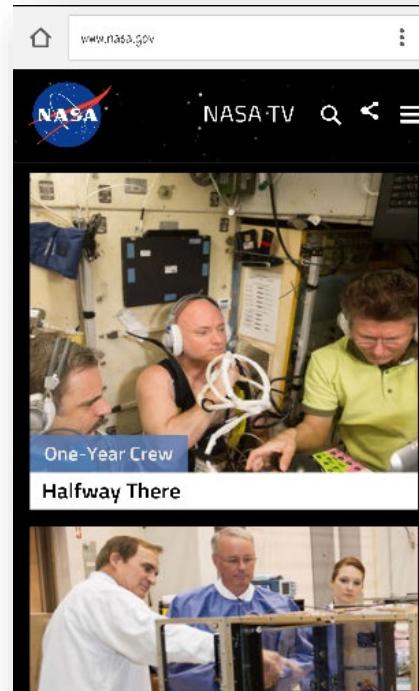
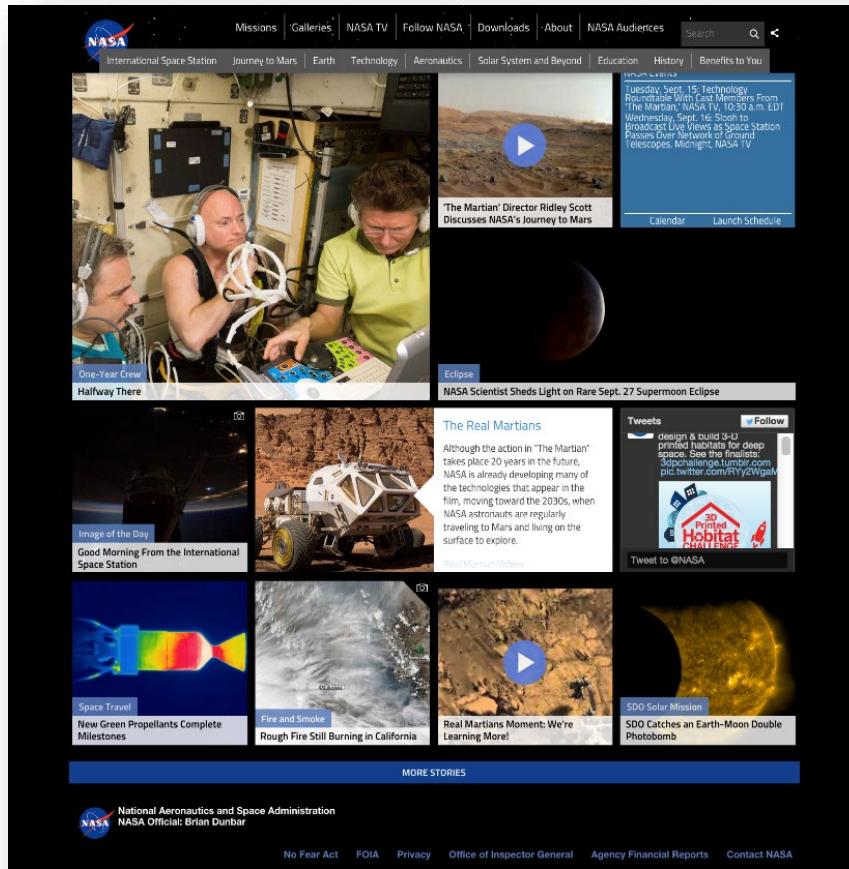
Alfonso Soriano

Text Output Here



Long lists

Two-dimensional mega menus give users a good overview of the choices, reduce the number of required actions, and allow rapid selection



Long lists

Some designers choose the more sober style of a text-only large 2D menu

- Allow users to rapidly scan hundreds of choices
- Appealing for websites with little or no competition
- A site map

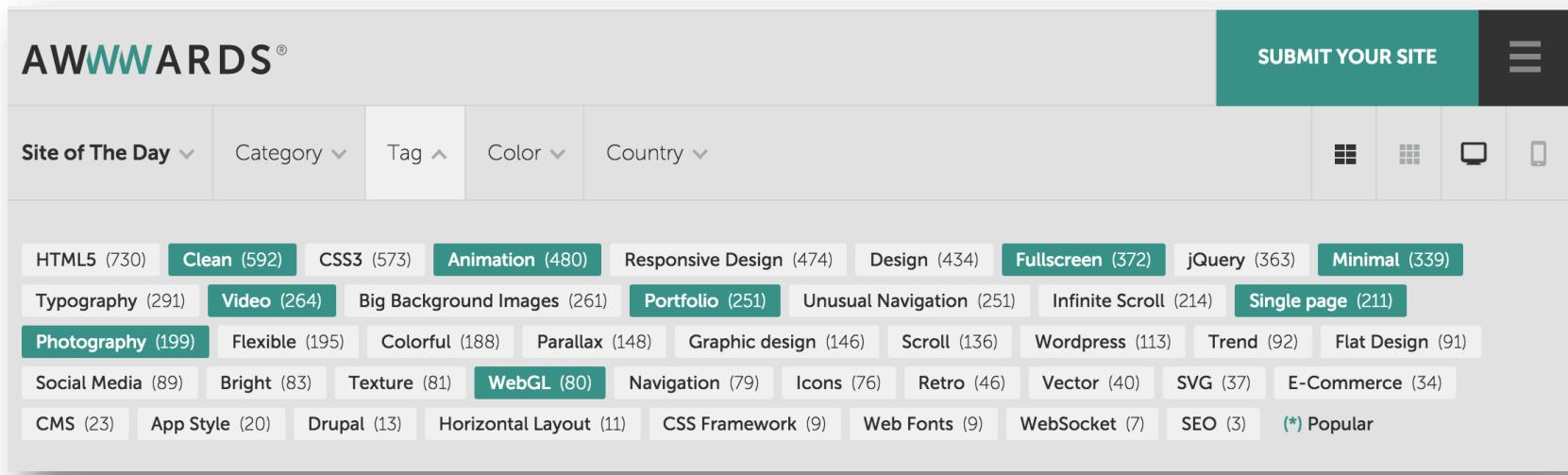
The screenshot shows the homepage of 58同城 (58.com) with a focus on its long list navigation. At the top, there's a search bar with placeholder text "招聘季月薪10000+" and a magnifying glass icon. To the right of the search bar are buttons for "搜索" (Search), "免费发布信息" (Free Information Release), and account-related options.

The main content area is organized into several columns of links:

- 上海房产**: 房屋出租, 品牌公寓, 二手房, 商铺出租, 生意转让, 短租/日租公寓, 厂房/仓库, 土地, 车位.
- 二手车**: 平行进口车, 车辆评估, 0-3万, 3-5万, 5-8万, 8-10万, 10-15万, 15-20万, >20万, 轿车/跑车, SUV/MPV, 面包车, 58放心车, 练手车, 准新车, 底价新车, 分期买车, 全部品牌, 急售, 大众, 别克, 福特, 标致, 雪佛兰, 丰田, 本田, 现代, 日产, 马自达.
- 二手市场**: 摩托卖场, 二手手机, 台式电脑, 笔记本, 平板电脑, 数码产品, 游戏交易.
- 上海招聘**: 包吃住包, 2018涨薪季, 热门兼职, 求职服务, 求职金卡, 热招职位, 销售, 普工/技工, 餐饮, 超市/零售, 人事/行政, 司机/交通, 仓储/物流, 保洁/安保, 客服, 教育培训, 财务/审计.
- 本地服务大全**: 投资理财, 借贷担保, 靠谱装修公司任您挑, 同城代跑腿, 家政服务, 品质搬家, 搬家指南, 大扫除, 搬家, 居民/公司/小型/长途, 空调移机/设备, 保姆, 月嫂/育儿嫂/钟点工/催乳师/保姆, 保洁, 家庭保洁/开荒/油烟机/玻璃/地板, 家务, 回收/开锁/疏通/鲜花/干洗改衣/白事, 配送/桶装水/跑腿/粮油副食/煤气, 维修, 家电/房屋/家具/电脑/手机/空调/数码, 婚庆摄影, 婚庆攻略/生育证件/结婚吉日, 结婚, 婚庆/婚车/婚宴/司机/彩妆/用品/跟拍, 摄影, 婚纱/儿童/写真, 庆典/演出/场地, 装修建材, 除甲醛/装修攻略, 家装, 装修/设计/效果图/建材/家具/家纺, 工装, 办公室/店铺/厂房/餐厅/酒店/自建房, 商务服务, 注册公司.

Long lists

Tag clouds



Linear versus simultaneous presentation

A sequence of interdependent menus can be used to guide users through a series of choices

- Pizza-ordering interface
- Installation wizards

Linear versus simultaneous presentation

A sequence of interdependent menus can be used to guide users through a series of choices

- Pizza-ordering interface
- Installation wizards

Simultaneous menus presentment menus at the same time

- Faceted search menus

The screenshot shows a search results page for 'bioinformatics' on the Tongji University Library website. The search bar at the top contains 'bioinformatics'. To the right of the search bar are buttons for '重新检索' (Re-search) and '高级检索' (Advanced search). On the left, there is a sidebar with various filters:

- 限定显示范围** (Limit display range):
 - 在线全文 (Full text online)
 - 学术资料 (包括同行评审内容) (Academic materials (including peer-reviewed content))
 - 纸本馆藏目录 (Physical collection catalog)
- 内容类型** (Content type):
 - 期刊文章 (689,407)
 - 会议录 (143,291)
 - 书籍章节 (86,594)
 - 报纸文章 (77,747)
 - 书籍 / 电子书 (10,853)
 - 更多..... (More....)
- 出版时间** (Publication date): A slider with two input fields for '从' (From) and '到' (To), and a dropdown menu for '最近12个月' (Last 12 months), '最近3年' (Last 3 years), and '最近5年' (Last 5 years).

The main content area displays three search results, each with a thumbnail icon containing an 'e' (representing an e-book), the title 'Bioinformatics', the author information (e.g., '著者 edited by David Edwards, Jason Stajich, David Hansen'), the year (e.g., 2009), and a link to '电子书: 在线全文' (Electronic book: Full text online). Each result also has a '更多信息' (More information) button.

Outline

Introduction

Navigation by selection

Small displays

Content organization

Audio menus

Form fill-in and dialog boxes

Small displays

Small devices have very focused functionalities and few selectable areas.

The smaller the screen, the more temporal the interface becomes

- Linear sequences of menus

Discoverability is often an issue



Small displays

Design considerations for small displays:

- Simplify: “less is more”
- Strive to reduce or eliminate data entry
- Learnability is key
- Consider use frequency and importance
- Plan for interruptions
- Use of contextual information
- Make clear what is selectable and what is not
- Leave room for scroll and swipe gestures to avoid inadvertent actions
- Consider relegating less important functions to other platforms

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Content organization

Organizing menus in a meaningful structure results in faster selection time and higher user satisfaction

Menu items should be organized by categories and have understandable meanings

- Comprehensible and distinctive



Content organization

Organizing menus in a meaningful structure results in faster selection time and higher user satisfaction

Menu items should be organized by categories and have understandable meanings

- Comprehensible and distinctive

Approaches:

- Linear sequence (e.g. in a wizard or survey)
- Hierarchical structure that is natural and comprehensible (e.g. a store split into departments)
- Network structure when choices may be reachable by more than one path (e.g. websites)

Structure and breath versus depth

Categorize similar items using *tree structures*

- Tree-structured menus are suitable to novice or intermittent users

Rules for forming menu trees:

- Use task semantics to organize menus
- Limit the number of levels (i.e. prefer broad–shallow to narrow–deep)
- Create groups of logically similar items: e.g. Level 1: countries, Level 2: states, Level 3: cities
- Form groups that cover all possibilities: e.g. Age ranges: [0–9] [10–19] [20–29] and [>= 30]
- Make sure that items are non-overlapping: e.g. use “Concerts” and “Sports.” over “Entertainment” and “Events”
- Arrange items in each branch by natural sequence (not alphabetically) or group related items
- Keep ordering of items fixed (or possibly duplicate frequent items in dedicated section of the menu)

Structure and breath versus depth

If the groupings are natural and comprehensible, users can easily accomplish the tasks



Use the terminology from the task domain instead of using a vague title

- “Main Menu Options” vs “Friendlibank Service”



Structure and breath versus depth

Breadth vs depth

The breath is preferred over depth

Given sufficient screen space, it's better to show a large portion of the menu structure

The screenshot shows the Amazon.cn website with a focus on the left navigation bar. The main menu includes links like 'Kindle 商店', 'Amazon 海外购', '图书', '手机、摄影、数码', '电子配件、智能生活', '家居、厨具、家装', '电脑、办公、文具', '家用电器', '美妆、个护健康', '食品、酒水、生鲜', '玩具、母婴、家庭会员', '运动户外、汽车用品', '服装、鞋靴、箱包', '钟表、首饰', '游戏、影视、乐器', and '亚马逊Drive'. The '家用电器' category is expanded, showing sub-categories: '电视/音响' (with sub-links like '平板电视', '迷你音响', '投音机', '家庭影院', '功放', '设备配件'), '大家电' (with sub-links like '洗衣机', '烘干机', '热水器', '烟灶套餐', '油烟机', '燃气灶', '冰箱', '冰柜', '酒柜', '空调', '消毒柜', '洗碗机'), '厨房电器' (with sub-links like '电饭煲', '电压力锅', '微波炉/光波炉', '豆浆机', '电磁炉', '搅拌/榨汁机', '面包机', '电水壶/瓶', '电烤箱', '酸奶机', '蒸/煮锅', '电饼铛/三明治机', '咖啡机', '冰激凌机', '豆芽机', '烧烤炉'), '居家电器' (with sub-links like '空气净化器', '吸尘器', '取暖器', '加湿器', '电风扇', '电熨斗', '挂烫机', '饮水机', '除湿机'), '个护电器' (with sub-links like '电动剃须刀', '电吹风', '电动牙刷', '电动理发器', '电动剃毛器/脱毛器', '耳鼻毛修剪器', '电子秤', '电动美容器', '美发器', '按摩器', '足浴盆'), and '旗舰店' (with sub-links like '国美电器官方旗舰店', '顺电官方旗舰店'). A promotional banner at the bottom left says '小家电/厨具爆款 低至19元'.

Sequence, phrasing, and layout

Sequence

- Designer is confronted with the choice of *presentation sequence*

Some items have a natural sequence and some do not

- Categorical organization is preferred

Split menus extract three or four of the most frequently used items and put them near the top while preserving the order of the remaining items

Adaptive menus provide users with control over the sequence of menu items



Sequence, phrasing, and layout

Phrasing

- For single menus, a simple descriptive title that identifies the situation is necessary

Some directives

- Use familiar and consistent terminology.
- Ensure that items are distinct from one another
- Use consistent and concise phrasing
- Bring the keyword to the fore



Sequence, phrasing, and layout

Layout

- Techniques to indicate position in the menu structure can be useful
- Elements included: Titles, item placement; instructions, error messages

As the user goes down the tree structure, the titles can be designed to indicate the level or distance from the main menu

- Graphics, fonts, typefaces, or highlighting techniques can be used beneficially

BROWSE BY TOPIC
Sports, Recreation & Leisure
Baseball
Baseball Cards 1887-1914

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Audio menus

Audio menus are useful in *interactive voice response*(IVR) systems

With audio menus, instruction prompts and options are spoken to users

- Audio menus have to provide a confirmation step following the selection
- To reduce dependence on short-term memory, it is preferable to describe the item first and then give the number
- A way to repeat the list of options and an exit mechanism must be provided



Audio menus

Complex and deep menu structures should be avoided

- The number of choices should be less than three or four

To develop successful audio menus, it is critical to know the users' goals, make the most common tasks easy to perform rapidly, and keep prompts to a minimum

- ‘Listen carefully, as our menu options have recently changed’ 😕
- More in Chapter 9



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Form fill-in

This form fill-in allows users to enter information when joining the IEEE Society

- Fields are grouped meaningfully, and field-specific rules such as password requirements are provided next to the fields
- The data is validated as soon as it is being provided and error messages explain how to correct the problem

Create an IEEE Account ? X

* Required field

Provide your personal information

* Given/First name: Ying

Middle name:

* Last/Family/Surname: Shen

Enter email address & password

The email provided here will be the username of your account.

* Email address: yingshen@

* Re-enter email address:

* Password: *****

* Confirm password:

⚠ The email address provided is not in a valid email format (for example: j.doe@nomail.com). Please try again.

✓ Your password is good

Passwords must be between 8 and 64 characters, and include at least one number. [More...](#)

[Privacy & Opting Out of Cookies](#) > [Create account](#) > [Cancel](#)

Form fill-in

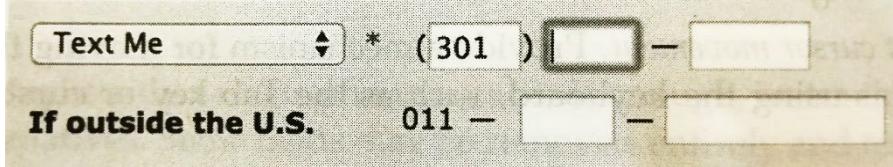
Form fill-in design elements

- Meaningful title
- Comprehensible instructions
- Label the field
- Limit data entry
- Explanatory messages for fields
- Error prevention
- Error recovery
- Immediate feedback
- Logical grouping and sequencing of fields
- Visually appealing layout of the form
- ...

Format-specific fields

Some common fields

- Telephone numbers



- Dates

Date: _ _/_ _/_ _ _ (04/06/2018 indicates April 6, 2018)

- Times

- Dollar amounts

Deposit amount: \$_ _ _ _ _ . _ _

- Passwords

- CAPTCHAs (Completely Automated Public Turing test to tell Computers and Humans Apart)

Format-specific fields

Some common fields

- CAPTCHAs (Completely Automated Public Turing test to tell Computers and Humans Apart)

拖動下方滑塊完成拼圖



III

填写验证码



换一张图片

继续

JUMAN COMP

验证



Dialog boxes

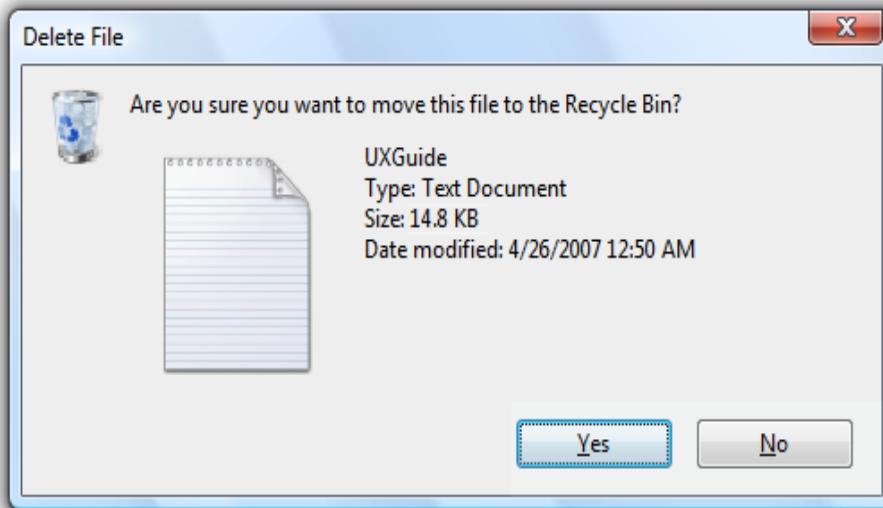
Dialog boxes are used to request users to select options, perform limited data entry, or review alerts and error messages

Dialog boxes are often shaped and sized to fit each situation, but distinctive sizes or aspect ratios may be used to signal errors, confirmations, or components of the application

Dialog boxes

This dialog box includes a binary menu with two choices (Yes or No)

- The blue highlighting on Yes indicates that this selection is the default and that pressing Return will select it
- Specific keyboard shortcuts can be made available
- Escape closes the dialog box
- Typing the letter ‘N’ will select ‘No’ as indicated by the underlined letter ‘N’



Dialog boxes

This dialog box is used to alert clinicians who try to prescribe the drug Warfarin, because it increases the risk of bleeding of patients already on Aspirin

- Several possible actions are proposed
- Overriding the alert is possible but requires confirmation by clicking a check box
- Because of the severity of the alert, this is a modal dialog box and it requires immediate action

