

互联网的用户体验设计过程

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目录

- 怎么做？
- 交付物？
- 敏捷设计？
- 产品评估？
- 问题？

怎么做？

实施过程

- 概念证明（构思）
根据市场研究和设想目标，论证为可行的商业模式。
- 设计探索（规划）
把抽象的商业需求，量化为可视可操作产品原型的过程。
- 技术编码（落实）
互联网产品与传统UI做用户体验，最大的区别便在于此。

概念证明

- 内容需求
 - 用户需要的内容
- 功能规格
 - 需要什么样的功能
- 用户简介
 - 角色说明

设计探索

- 信息架构
 - 功能结构
 - 界面线框
- 交互设计
 - 任务分解
 - 工作流程
- 视觉设计
 - 风格规范

技术编码

- 结构
 - HTML
- 表现
 - CSS
- 行为
 - DOM & Script

交付物？

类型

- 设计图

- 概念图
- 架构图
- 流程图

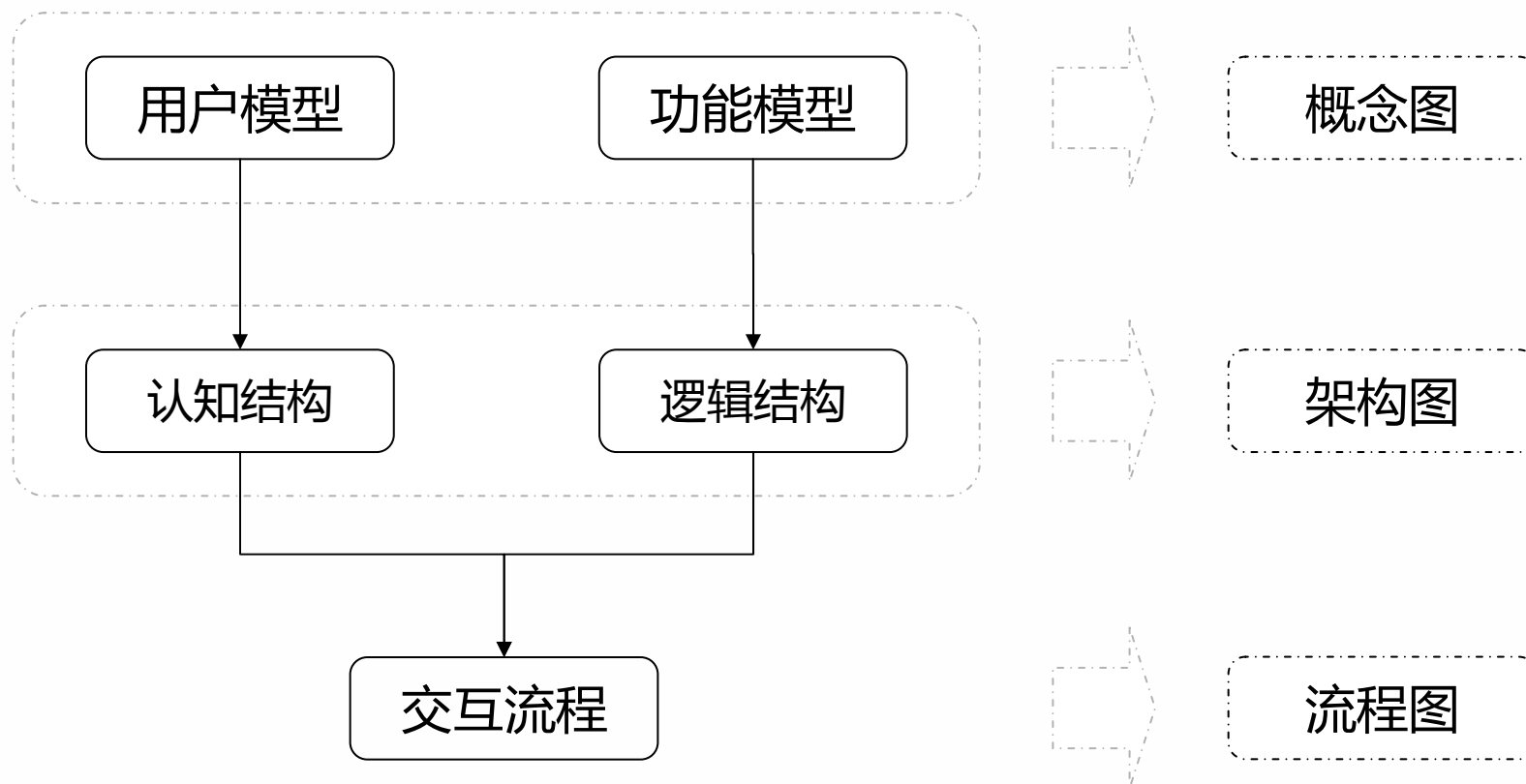
- 原型

- 纸质原型
- 图形原型
- 页面原型

- 文档

- 过程文档
- 交付文档

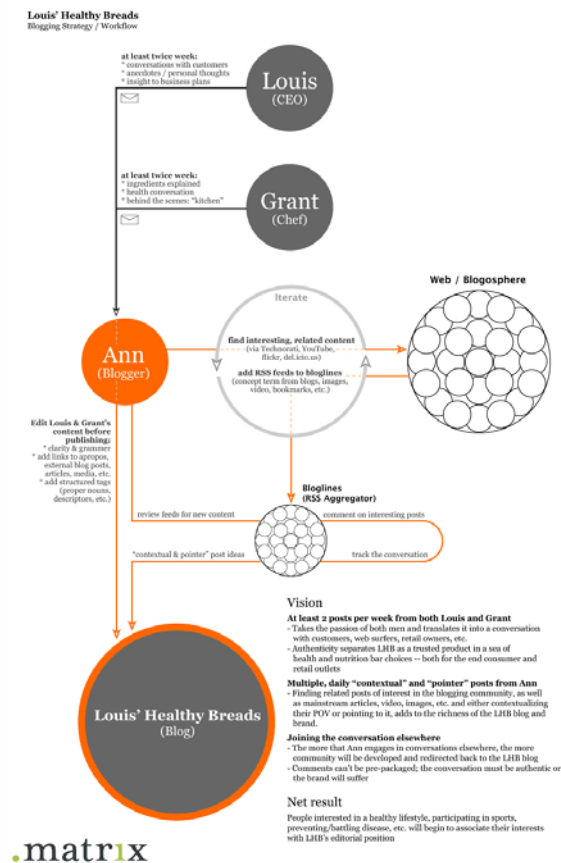
设计图



概念图

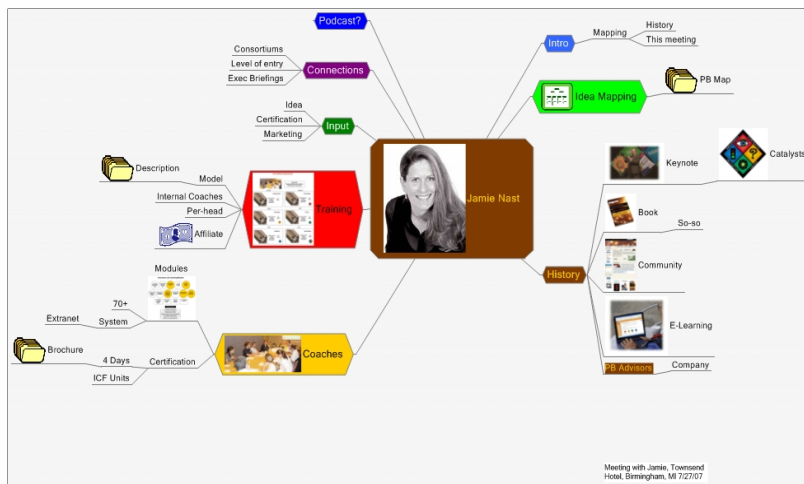
- 功能模型
能满足什么，如何满足？
- 用户模型
需要做什么，应该如何做？
- Paper
- Visio
- MindManager
- Illustrator
- Photoshop
- Powerpoint
- ?

概念图（功能）



- 类似产品蓝图的远景规划，使用抽象图形呈现
- Photoshop制作

概念图（用户）

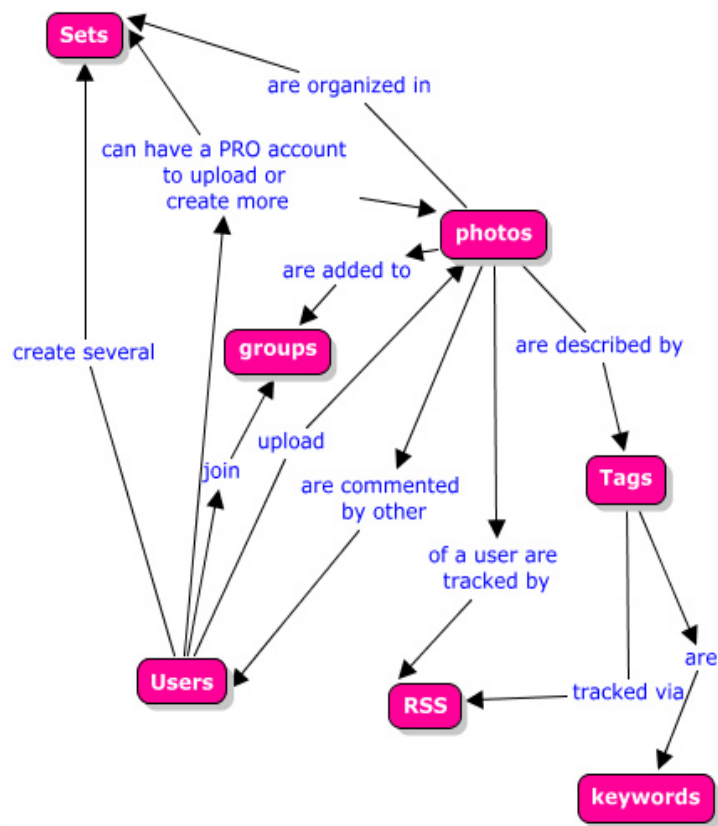


- 定义产品用户应有的功能，列举可能没有逻辑关系
- MindManager制作

架构图

- 逻辑结构
建立层级逻辑关系。
- 认知结构
建立认知逻辑关系。
- Paper
- MindManager
- FreeMind
- CmapTools
- Omnigraffle
- PowerPoint
- ?

架构图（逻辑）



- 介绍Flickr功能以及它们之间的相互关系
- CmapTools制作

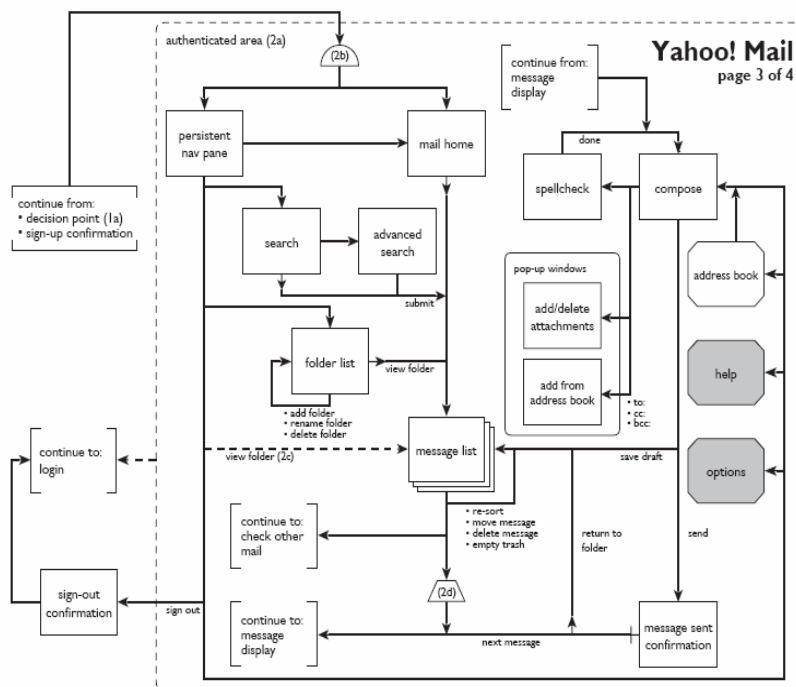
- 介绍用户可以在Flickr平台上获取哪些服务
- Illustrator制作



流程图

- 任务流程
功能点之间的交互。
- 界面流程
操作点之间的交互。
- Paper
- Visio
- Omnigraffle
- Photoshop
- PowerPoint
- SmartDraw
- Axure
- ?

流程图（任务）



- 某用户在雅虎邮件系统里登录后，查看消息的过程处理片段
- Visio制作

流程图（界面）

- 01.创建新的调查（小杰）
02.为调查添加问题和选项（小杰）
03.通过新创建的调查，并获得 JS 代码（小杰）

调查系统

添加新调查

调查标题:

调查描述:

参与权限:

统计信息:

风格:

下一步: 保存并添加问题

你为“什么”而工作?: 添加问题和选项

问题标题:

选项:

选项:

选项:

再增加一个问题

保存所有更改

下一步: 保存并获取JS代码

你为“什么”而工作?: 获取JS代码和预览

JS代码:

```
<script type="text/javascript" src="..."></script>
```

调查预览:

你为“什么”而工作?

为“什么”而工作? ——这是每个职场人士都应仔细去思考的问题。
员工究竟为“什么”而工作? ——这同样是每个企业最为关注的问题。

1. 在工作上没有成就感。

☐ 完全能接受 ☐ 基本能接受 ☐ 无所谓 ☐ 不能接受

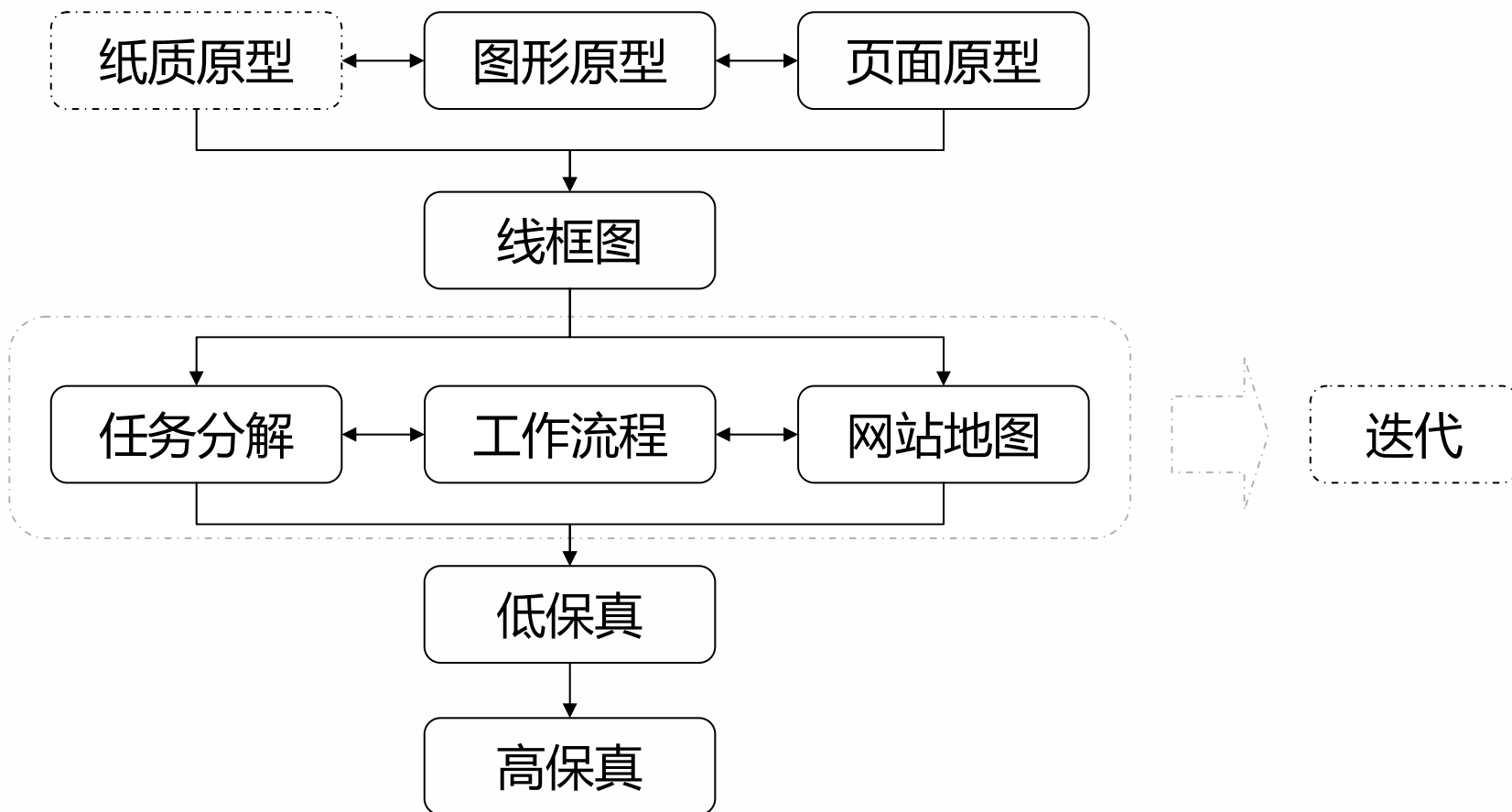
提交问卷 查看统计

返回编辑这份调查

进入编辑问题界面(04任务)

- 小杰在后台创建调查、添加问题选项、获得JS调用代码的过程
- Visio制作

原型



纸质原型

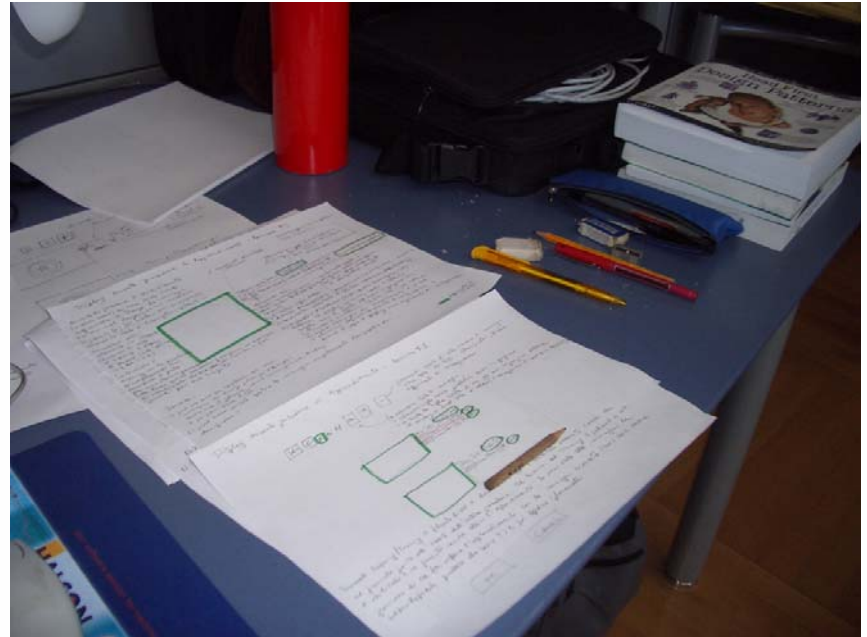
优点

- 制作快速
- 无技术壁垒消失
- 更少的讨论时间
- 传达产品感觉不错

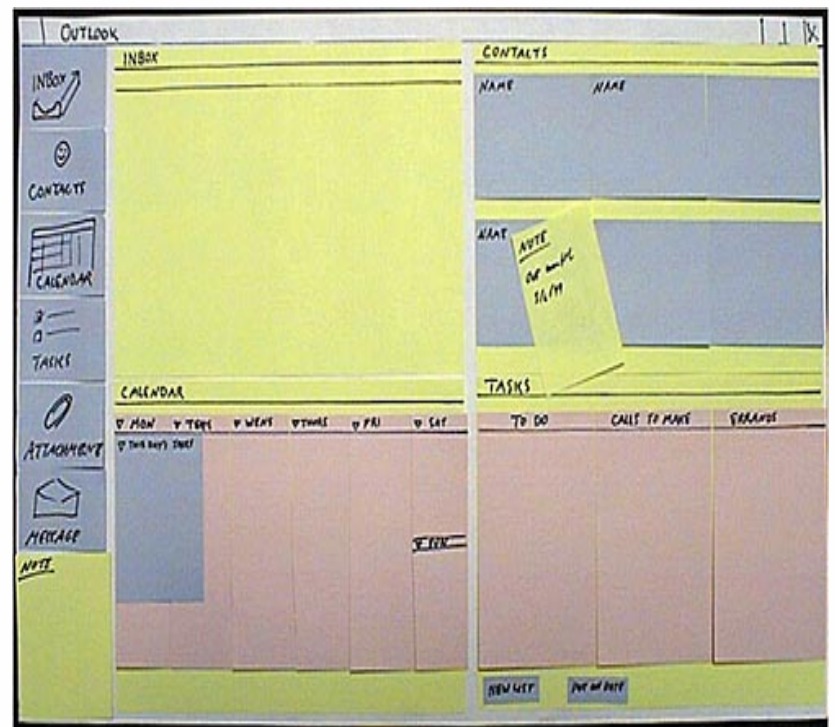
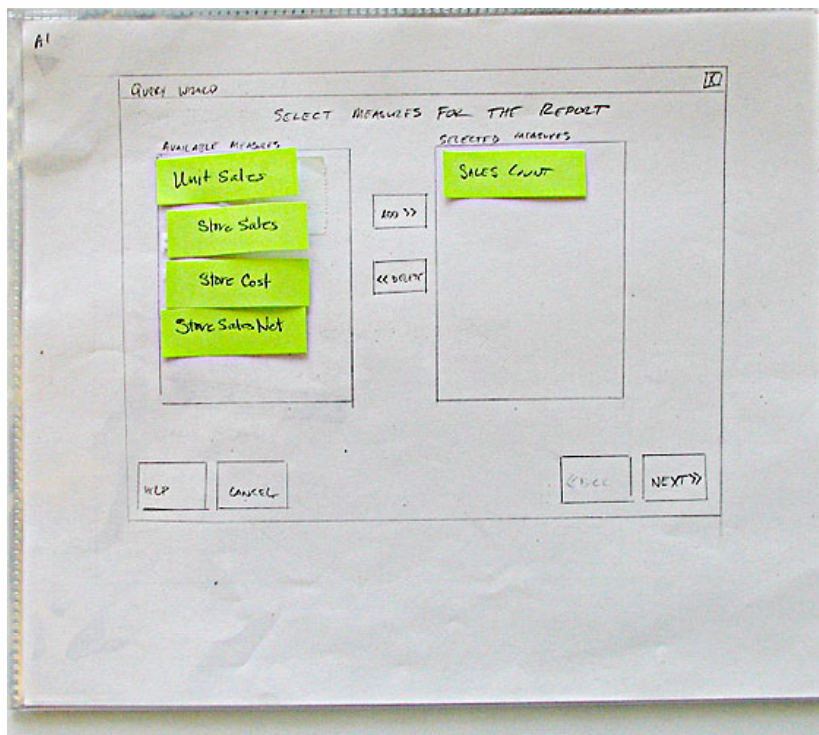
缺点

- 存在屏幕真实状态问题
- 不能评估视觉
- 不能在实际系统中制造假数据
- 不能评价的响应时间
- 不合适超过3人的演示

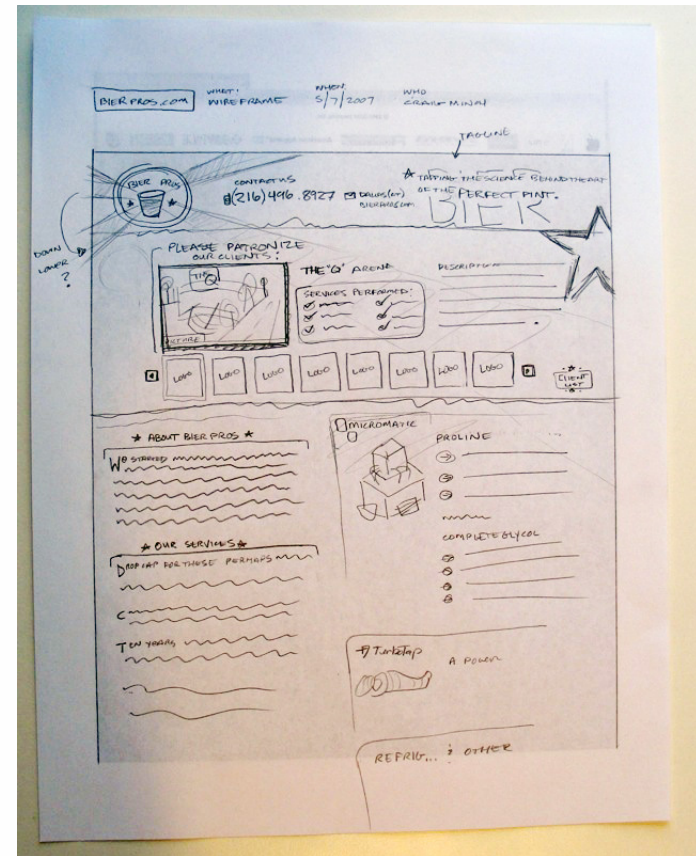
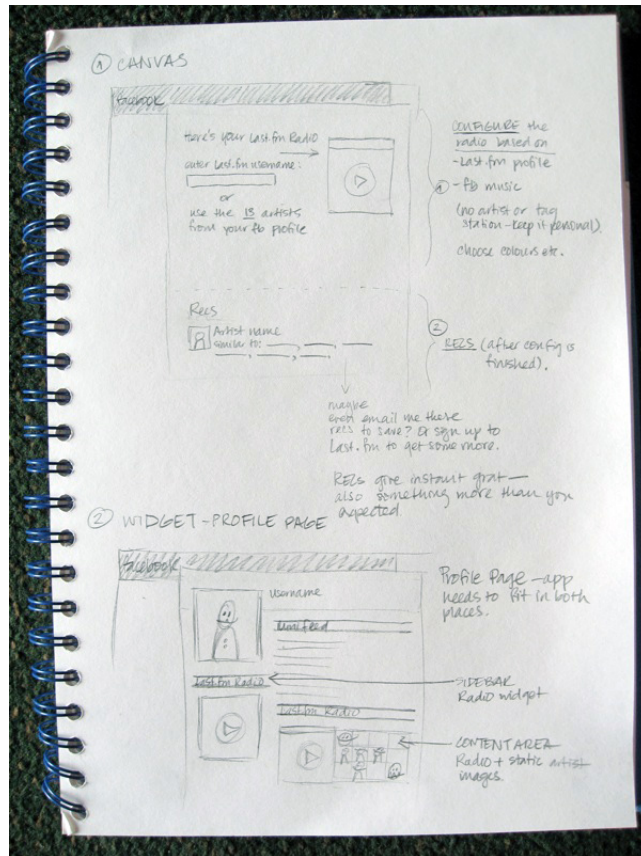
纸质原型（制作）



纸质原型 (卡片)



纸质原型 (手绘)



图形原型

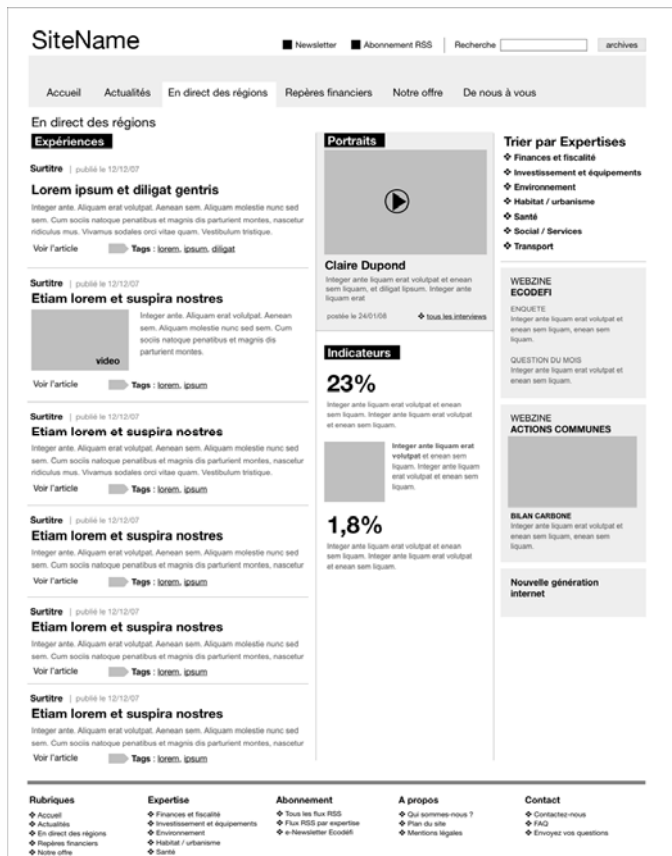
优点

- 效果美观
- 适合打印或者归档
- 无需纸张

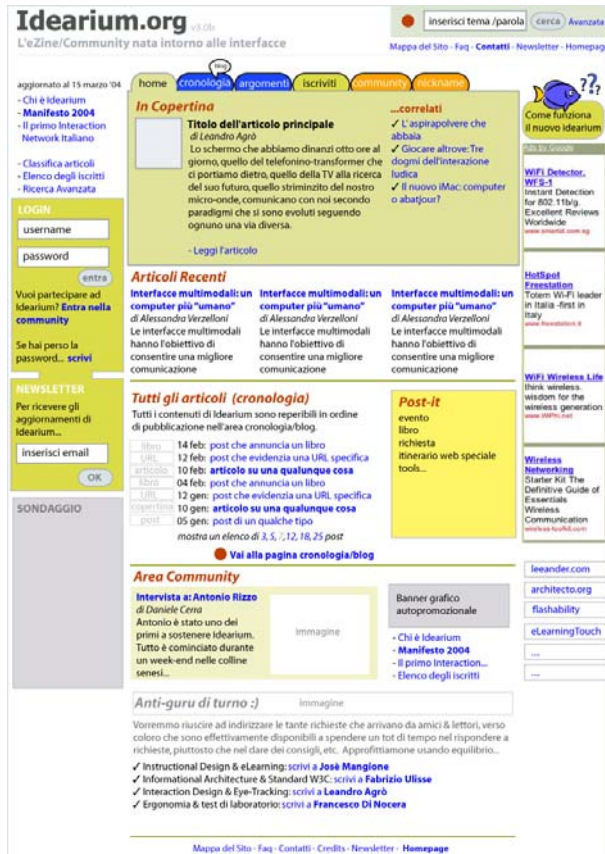
缺点

- 存在客户端真实状态问题
- 制作需更多时间
- 制作需要相关专业知识
- 不方便现场测试新想法
- 容易延误改进执行

图形原型 (Visio)



图形原型 (Photoshop)



图形原型 (Illustrator)



页面原型

优点

- 真实的交互
- 有益于评价屏幕变化
- 有时间作出改进

缺点

- 制作需更多时间
- 制作需要编程知识
- 不方便现场测试新想法
- 容易延误改进执行

页面原型（低保真）



- 区分链接
- 不区分颜色
- 固化布局
- 固化模块
- 固化信息条目
- 固化信息内容规格

页面原型（高保真）



- 保证与设计图一致
- 按风格指南完成结构表现制作
- 区分信息颜色

过程文档

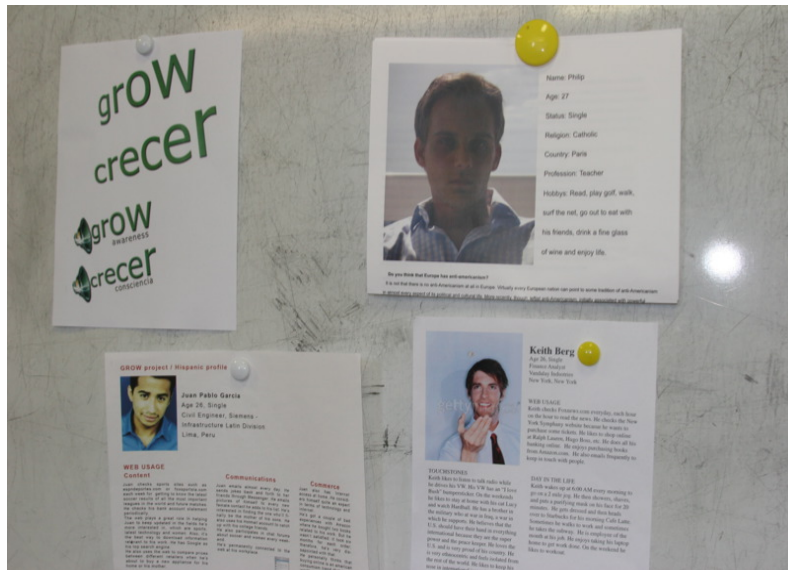
- 角色定义

有目标用户群之后，分别对典型角色进行定义，让他们看起来更真实。

- 页面列表

适合管理原型页面，并编号存档和组织。

角色定义 (Grow)



- 基本属性
- 关键差异
- 简单描述
- 用户目标
- 商业目标
- 相关属性

页面列表 (Dpdp)

- 名称
- 编号



交付文档

- 风格指南

指导低保原型进行美化，及维护准则，包括HTML&CSS

- 脚本说明

指导页面前端行为开发的帮助，包括Script&DOM。

- 接口说明

方便第三方开发、获取数据、使用功能。

风格指南 (CAPT)

Site Structure

The Site Structure section provides an overview of the major components that make up the site.

The global header and footer are applied consistently across all pages of the site. The header and footer are generated from two include files that are referenced from within each CAPT template. GSC users controls both of these files.



National CAPT Website Key Elements Style Guide - Version 1.0

10/1/2004

Color Palette

The following colors are used as the default colors in the specific CAPT sections. This color palette provides a reference guide for CAPT.

National	#003366 (R0, G51, B102)
	#336699 (X51, G102, B153)

Central CAPT	#4A207E (X74, G32, B126)
	#282774 (R82, G130, B161)

Northeast CAPT	#214232 (X33, G46, B90)
	#386736 (X51, G102, B51)

Southwest CAPT	#005083 (R0, G86, B133)
	#A17E94 (X161, G126, B154)

Southwest CAPT	#F73034 (X133, G49, B20)
	#D987F7 (X209, G152, B127)

Western CAPT	#735021 (X113, R80, G23)
	#904462 (X153, G153, B51)

National CAPT Website Key Elements Style Guide - Version 1.0

Typography

The following font styles have been defined for the CAPTs and are applied using Cascading Style Sheets. The PageTitle and Subtitle1 styles are consistent with the preceding color palette.

National	
PageTitle	Font: Verdana Medium Bold, Color: #003366 (R0, G51, B102)
Subtitle1	Font: Verdana Small Bold, Color: #336699 (X51, G102, B153)
Subtitle2	Font: Verdana Small Bold, Color: #000000 (R0, G0, B0)

Central CAPT	
PageTitle	Font: Verdana Medium Bold, Color: #4A207E (X74, G32, B126)
Subtitle1	Font: Verdana Medium Bold, Color: #282774 (R82, G130, B161)
Subtitle2	Font: Verdana Small Bold, Color: #000000 (R0, G0, B0)

Northeast CAPT	
PageTitle	Font: Verdana Medium Bold, Color: #214232 (X33, G46, B90)
Subtitle1	Font: Verdana Medium Bold, Color: #386736 (X51, G102, B51)
Subtitle2	Font: Verdana Small Bold, Color: #000000 (R0, G0, B0)

Southwest CAPT	
PageTitle	Font: Verdana Medium Bold, Color: #005083 (R0, G86, B133)
Subtitle1	Font: Verdana Medium Bold, Color: #A17E94 (X161, G126, B154)
Subtitle2	Font: Verdana Small Bold, Color: #000000 (R0, G0, B0)

National CAPT Website Key Elements Style Guide - Version 1.0

10/1/2004

Cascading Style Sheets

Cascading Style Sheets (CSS) are used to apply consistent font styles across the site. They enable Web administrators to control the fonts on all pages across the site from a central file. If the color of a page title needs to change, the change only needs to be made in one place instead of on all pages.

CSS also greatly reduces the amount of HTML code that each page requires. Instead of adding font tags to each text occurrence, CSS styles can automatically set the font style. Embedded font tags should not be used on the CAPT Website.

CSS Class	Description
16	This style automatically sets all text in table tags to the standard font.
p	This style automatically sets all text in paragraph tags to the standard font.
h	This style automatically sets all text in lists to the standard font.
small	This style should be used for text that is smaller than the standard page text. It is recommended that this style be used in the subheader section of the CAPT home page.
h1	This style is for any text that CAPT wants to be big.
CAPT_pageTitle	This style should be used for the page title at the top of each page, with the exception of the home page. "CAPT" is substituted with the name of each CAPT's region.
CAPT_subtitle	This style is used as a section or paragraph heading within a page. "CAPT" is substituted with the name of each CAPT's region.
CAPT_subtitle2	This style may also be used as a section or paragraph heading within a page. "CAPT" is substituted with the name of each CAPT's region.
banner text	This style defines the text in the banner on the home page.
11	This style is meant to be used as a title row in a table, the background is dark blue and the text white.
12	This style is meant to be used as a subtitle row in a table, the background is dark blue and the text dark blue.
19	This style can be used as an alternating row color, or to distinguish rows between table rows.
15	This style can also be used as an alternating row color, or to distinguish rows between table rows.
a:link	This style defines the default link styles. Links are displayed as blue underlined text. On hover the link color changes and the underline disappears. Visited links are displayed as purple.
a:visited	This style should be applied for all form buttons. The style creates a button with a light blue background and dark blue Verdana text.

National CAPT Website Key Elements Style Guide - Version 1.0

10/1/2004

Miscellaneous Guidelines

Recommended table format

The following example provides an attractive option for displaying content tables. When inserting tables use cellpadding="1" cellspacing="2". This will provide enough space between table text and display a white line.

11	Text
19	Text
19	Text
19	Text
19	Text

File format icons

It is helpful to indicate to users the format of files the site is linking to. Using file format icons is a good way to visually communicate to users that the link they are clicking on will lead a file.

Example: If you missed the training session you can [read a transcript](#) of the session details.

- Word files (.doc, .docx)
- Adobe Acrobat files (.pdf, .eps)
- Power Point files (.ppt, .pptx)
- Word files (.word, .doc)

National CAPT Website Key Elements Style Guide - Version 1.0

10/1/2004

结构、配色、排版、样式表、混合

脚本说明 (YUI)

Y! Yahoo! UI Library

Menu 2.5.0

Yahoo! UI Library > menu > YAHOO.widget.MenuManager

Modules

- animation
- autocomplete
- button
- calendar
- charts
- compiler
- connection
- container
- cookie
- datasource
- datepicker
- drag
- dragdrop
- editor
- element
- event
- get
- history
- imagecropper
- imageviewer
- json
- layout
- logger
- menus
- paginator
- progressbar
- resize
- selector
- slider
- sortable
- treeview
- uploader
- value
- validator
- yahoo

Classes

- YAHOO.widget.ContextMenu
- YAHOO.widget.ContextMenuList
- YAHOO.widget.Menu
- YAHOO.widget.MenuList
- YAHOO.widget.MenuListForm
- YAHOO.widget.MenuListForm
- YAHOO.widget.MenuListForm
- YAHOO.widget.MenuManager

Files

- contextMenu.js
- contextMenuList.js
- menu.js
- menuList.js
- menuListForm.js
- menuListForm.js
- menuManager.js

Methods

- addMenu
- getFocusedMenu
- getFocusedMenuItem
- getItems
- getMenuItem
- getMenuItemGroup
- getMenus
- getVisible
- hideVisible
- removeMenu
- removeMenus
- toString

YAHOO.widget.MenuManager

Singleton that manages a collection of all menus and menu items. Listens for DOM events at the document level and dispatches the events to the corresponding menu or menu item.

Methods

- addMenu
- YAHOO.widget.MenuManager.addMenu (p_menu)
- Adds a menu to the collection of known menus.
- Parameters:
- p_menu: YAHOO.widget.Menu: Object specifying the Menu instance to be added.
- Returns: void.

- getFocusedMenu
- YAHOO.widget.MenuManager.getFocusedMenu ()
- Returns a reference to the menu that currently has focus.
- Returns: YAHOO.widget.Menu
- getFocusedMenuItem
- YAHOO.widget.MenuManager.getFocusedMenuItem ()
- Returns a reference to the menu item that currently has focus.
- Returns: YAHOO.widget.MenuItem
- getItems
- YAHOO.widget.MenuManager.getItems (p_menuId)
- Returns a menu with the specified id.
- Parameters:
- p_menuId: <string>: String specifying the id of the <div> element representing the menu to be retrieved.
- Returns: YAHOO.widget.Menu
- getMenuItem
- YAHOO.widget.MenuManager.getMenuItem (p_menuId)
- Returns a menu item with the specified id.
- Parameters:
- p_menuId: <string>: String specifying the id of the element representing the menu item to be retrieved.
- Returns: YAHOO.widget.MenuItem
- getMenuItemGroup
- YAHOO.widget.MenuManager.getMenuItemGroup (p_menuId)
- Returns an array of menu item instances whose corresponding elements are child nodes of the <div> element with the specified id.
- Parameters:
- p_menuId: <string>: String specifying the id of the <div> element representing the group of menu items to be retrieved.
- Returns: Array
- getMenus
- YAHOO.widget.MenuManager.getMenus ()
- Returns a collection of all menus registered with the menu manager.
- Returns: Array
- getVisible
- YAHOO.widget.MenuManager.getVisible ()
- Returns a collection of all visible menus registered with the menu manager.
- Returns: Array
- hideVisible
- YAHOO.widget.MenuManager.hideVisible ()
- Hides all visible, dynamically positioned menus (excluding instances of YAHOO.widget.MenuList).
- Returns: void
- removeMenu
- YAHOO.widget.MenuManager.removeMenu (p_menu)
- Removes a menu from the collection of known menus.
- Parameters:
- p_menu: YAHOO.widget.Menu: Object specifying the Menu instance to be removed.
- Returns: void
- toString
- YAHOO.widget.MenuManager.toString ()
- Returns a string representing the menu manager.
- Returns: <string>

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- 框架
- 模块
- 调用

接口说明（豆瓣）



豆瓣 API 参考手册

本文档提供豆瓣 API 的详细说明, 请在你在阅读本文档之前, 先阅读豆瓣 API 的简介来快速了解豆瓣 API.

豆瓣 API 遵循 Atom 和 OAuth 规范, 了解这两个规范有助于更好地理解使用豆瓣 API, 不过这并不是必需的, Atom 和 OAuth 规范的具体信息可以参考 The Atom Syndication Format 和 Google Data API.

目录

通用参数说明	
通用元素说明	
返回状态说明	
详细文档	
用户	
新用户注册	
登录用户	
创建、修改、删除	
用户书籍信息	
用户电影信息	
用户音乐信息	
用户日记、相册、相册	
用户喜欢某个条目的人也可能喜欢的条目信息	
讨论	
创建讨论信息	
特定用户的讨论和评论	
特定书籍、电影、音乐的讨论和评论	
收藏	
创建用户的收藏信息	
标签	
某个书籍、电影、音乐标签出现的频率	
用户对书籍、电影、音乐的评分和标签	

通用参数说明

以下表格给出了 API 请求中都需要包含的参数

参数	类型	备注
apikey	API key	豆瓣参考手册中 API 的说明里会提供一个 API key, 以防止 API 被滥用或恶意使用, 你登录后可以在此处申请 API key
alt	返回数据格式	通过该参数, 你可以选择返回数据格式, 默认为 Atom 且符合规范的返回格式为: atom+xml; charset=utf-8

通用元素说明

在下列这些豆瓣 API 中使用的 XML 元素中, 不适用于 Atom 和 OAuth 规范的部分, 豆瓣的 XML 名字空间为: "http://www.douban.com/xml/" , 使用如下为规范

标签	属性	描述
location		User 的子元素
		用户用户的所在位置
latitude	@name	用户的纬度
		用来表示 User 的地理位置中不能与 Atom 和 OAuth 规范的部分, 内容
		<lat latitude="name">latitude</lat> 或者 <lat latitude="name">latitude</lat>
tag	@name	标签的子元素
	@count	标签的数量
		表示与 User 的地理位置相关的书籍、电影或音乐

返回状态说明

豆瓣 API 通过 HTTP Status Code 来返回 API 请求是否成功, 下面的表格中展示了豆瓣的 HTTP Status Code, 及其含义

状态码	含义
200 OK	请求成功
400 BAD REQUEST	请求的数据不符合豆瓣 API 的规范
403 FORBIDDEN	请求被拒绝
404 NOT FOUND	请求的资源不存在

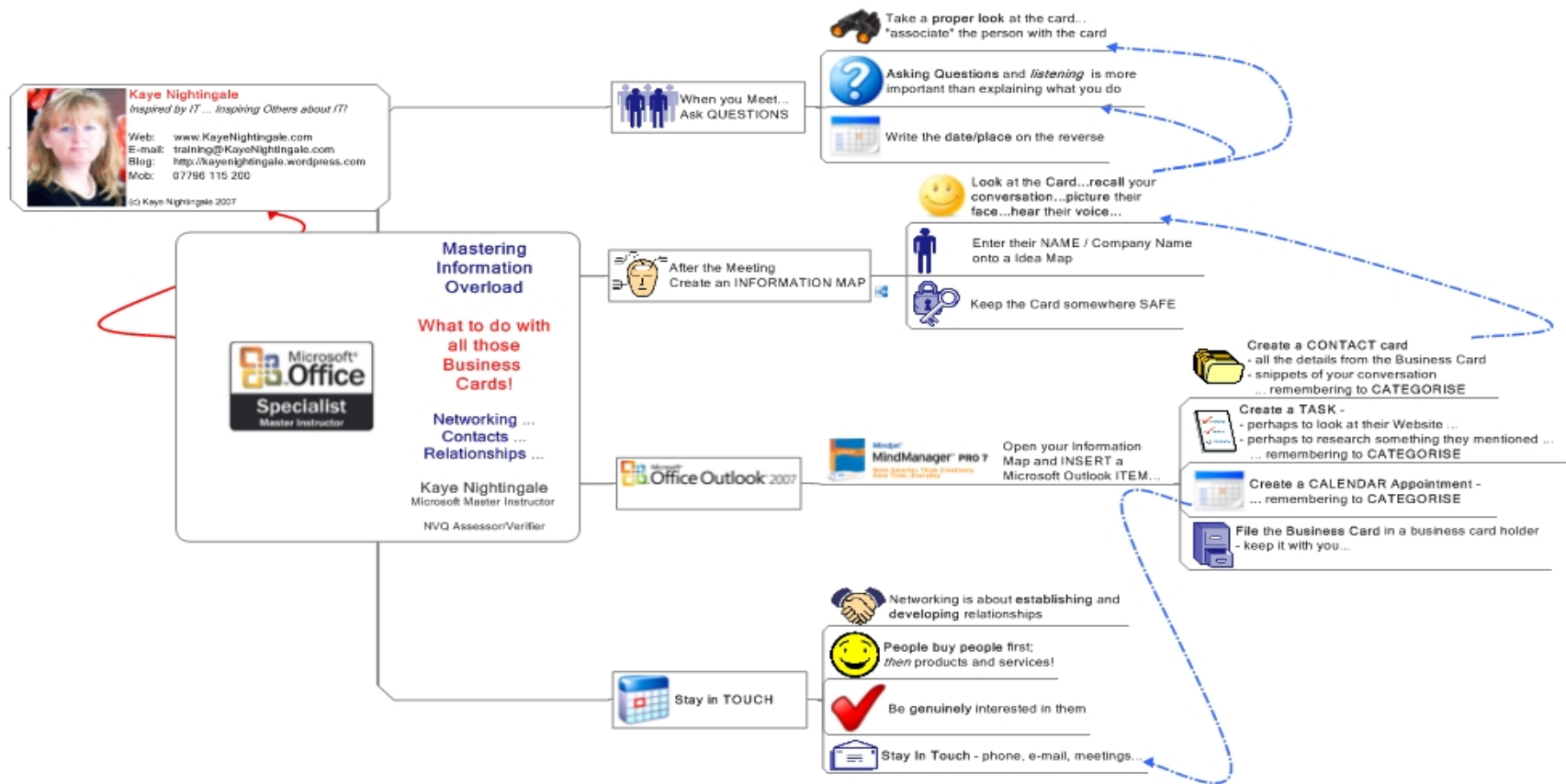
- 通用参数说明
- 通用元素说明
- 返回状态说明
- 详细说明

敏捷设计？

流程与交付

- 保证关键设计图
图形只是辅助说明，根据产品需求适量减少、合并设计图。
- 多用Web页面原型
直接完成成为带交互的HTML页面，减少实施过程。
- 从低保原型开始
越保真的原型需要的技巧越多，或耗时越多。

思维导图 Mind Map



任务分解 Task Analysis

Call History - Compiled Task Analysis

Before Scene

Therapsus balzani (Jaffar) of Jang's new *balzani* subspecies is not new to the region.

Many visitors come from a traditional way of thinking to see if there have been any important phenomena or messages that the island, if be seen the minimal influence on the place and begin the lengthy process of selling and learning to be minimal.

After Scene

The quasi business (effect) of family firm business involvement is substantial and significant.

After you've been from a medical wing and going to see if there's been any progress on the side or to suggest the other hand, the leader of her Concept Management Center Quilts and she quickly goes that she has been successful. Through the Concept Management Center Quilts, she is able to make the quilt and make it from her mother and play the quilts instantly.

Future Scene

Thapsus *bulbosus* (L'Her.) of Japan's two bulbous members is probably a *bulbosus*.

[illegible]

Checking voicemail is tedious and time consuming. I want a system that is quick, convenient, and easy for me.

Sub Tasks	James returns home from a weekend away.	James checks to see if anyone left a returned message.	James checks to see if anyone left a returned message.	James listens to her returned message.	James checks for returned calls after needs to return.	James checks the caller to her address book.	James reviews her list of calls to return.	James returns her phone calls.	
Scenario	James returns home from a weekend away. She calls to see if her phone has any missed calls or messages. She has a long drive home and needs to check her phone as soon as possible.	James checks to see if anyone left a returned message. She has a long drive home and needs to check her phone as soon as possible.	James checks to see if anyone left a returned message. She has a long drive home and needs to check her phone as soon as possible.	James checks to see if anyone left a returned message. She has a long drive home and needs to check her phone as soon as possible.	James checks to see if anyone left a returned message. She has a long drive home and needs to check her phone as soon as possible.	James checks to see if anyone left a returned message. She has a long drive home and needs to check her phone as soon as possible.	James checks to see if anyone left a returned message. She has a long drive home and needs to check her phone as soon as possible.	James checks to see if anyone left a returned message. She has a long drive home and needs to check her phone as soon as possible.	James returns her phone calls. She has a long drive home and needs to check her phone as soon as possible.
Considerations/Influencers	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.
Pain-Points	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.
Functionality	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.	James has a long drive home and needs to check her phone as soon as possible.

Glas

Readings

Fig 4 – cell lines do not use any growth factors

Q4) Stationary - all items after priority 1

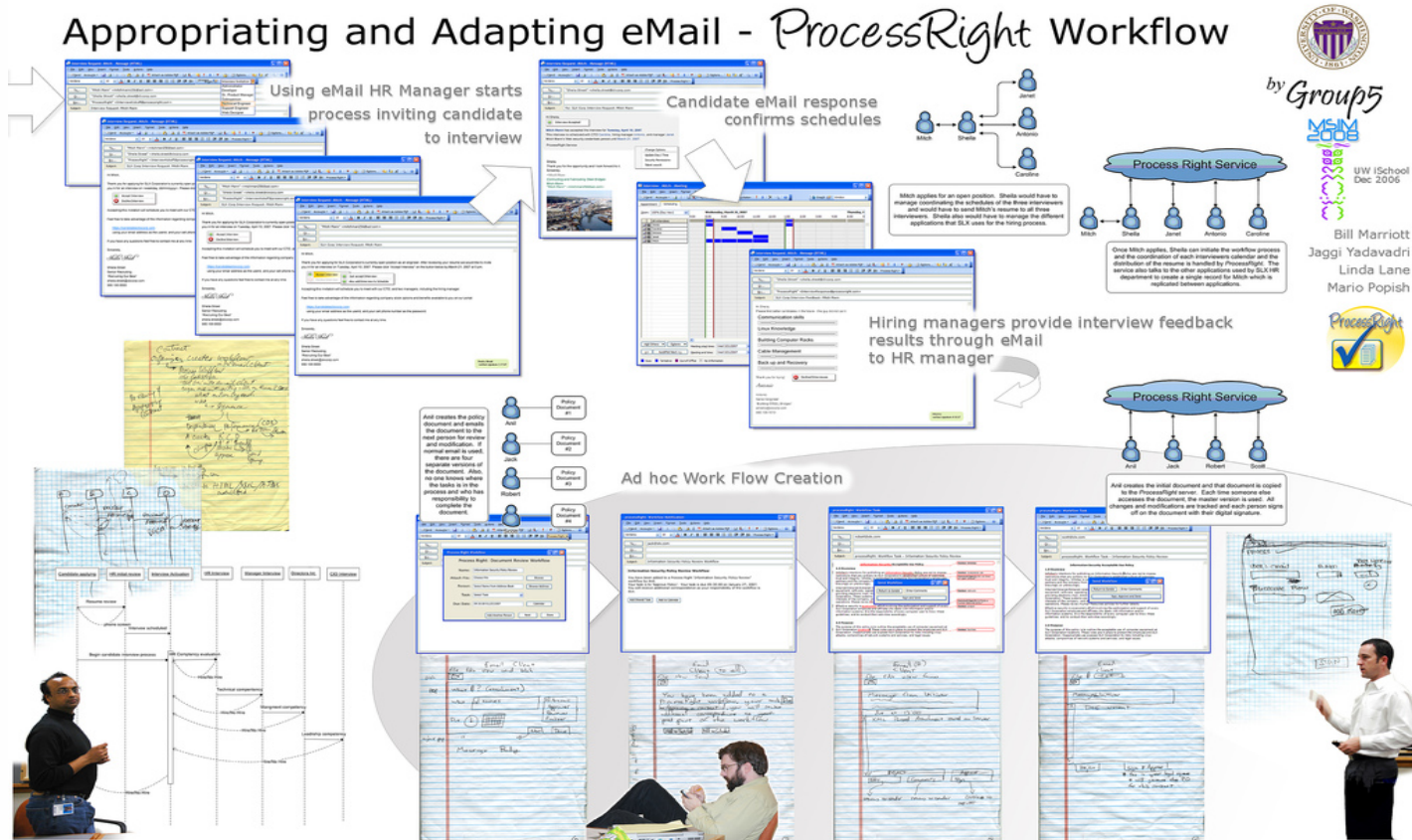
(c) Future – could be for a future version of the product

Copyright Text and year | 1

快速引导 Dashboard



工作流程 Work Flow



网站地图 Site Map

BRIANMAY.COM - New-User Guide

16.08.07

HOME PAGE

Visitors can enter site via
WHAT'S NEW or Date
Or via
MAIN MENU (click Brian
picture) or Red Button.

**MOST ITEMS CAN BE
REACHED FROM ANY OF
THESE PAGES.**

MAIN MENU PAGE

Menu items open
all pages shown
here.

TOUR 2005-6

COMPETITIONS

**WWRY
UP-DATING.**

**DOWNLOADS -
7Digital.com link.**



HOME PAGE

(Latest Headlines)

Opens as on right.

**WHAT'S NEW
PAGE** Grey
panel links to
HOME, MENU,
BIOG, DIARY,
CONTACT.

HISTORY
Clicking a date in
dropdown menus
swaps headlines
for another
month's list

SEARCH

LINKS

DAYS



RED MENU
BUTTONS
swap this page
with complete
pages shown
below.

Click a headline
to view article
in this frame.

LINKS LIST
Small selection



HISTORY



RED BUTTONS SWAP THESE PAGES



职能与职责

- 产品经理（PM）
提需求和构思，并且全面统筹和协调。
- 产品原型设计师（IA, ID, VD, ...）
反复迭代规划，最终完成为低保原型，并且出具风格指南。
 - 掌握两种以上的设计工具
- 产品页面工程师（DEV）
通过风格指南和低保原型，完善为高保原型，协助完成质量评估。
 - 掌握两种以上的编码工具

能力要求打分

5	业务能力	互联网认识	信息架构	交互设计	沟通能力	工作协调	文档制作	视觉设计	编程能力
PM	5	5	2	3	5	5	3	2	1
IA	3	4	5	4	4	4	5	3	2
ID	2	3	4	5	4	4	5	3	3
VD		2	3	2	4	4	4	5	
DEV		3	2	2	4	4	3		5

产品评估？

启发式评估

需要注意的原则？

1. 可视性原则
2. 不要脱离现实
3. 用户有自由控制权
4. 一致性原则
5. 有预防用户出错的措施
6. 要在第一时间让用户看到
7. 使用起来灵活且高效
8. 易读性
9. 给用户明确的错误信息，并协助方便恢复工作
10. 必要的帮助提示与说明文档

启发式评估（导航）

1. 清晰指示了当前的位置
2. 清晰定义了首页的链接
3. 网站的所有主要部分都能通过首页访问
4. 如果需要的话，应该有个站点地图
5. 网站结构清晰，没有不必要的层级
6. 如果需要的话，要有个易用的搜索功能

启发式评估（功能）

1. 所有功能都被清晰地表示出来
2. 所有重要功能在不离开网站前提下都可以使用
3. 没有不必要的插件

启发式评估（控制）

1. 用户可以取消所有操作
2. 在每页，用户都可以找到清晰的离开本页标识
3. 所有图片链接都和文字链接一样清晰可用
4. 网站的流程符合用户的操作流程
5. 支持所有主流浏览器

启发式评估（语言）

1. 文案简洁
2. 没有术语

启发式评估（反馈）

1. 现在发生了什么，应该一直清晰标示出来
2. 如必要，用户应该能收到邮件反馈
3. 所有反馈都要及时准确
4. 如需要安装插件或特定浏览器，必须告知用户
5. 用户可以通过邮件或提交表单来提交反馈意见
6. 如必要的话，提供在线帮助

启发式评估（一致性）

1. 对任何元素都只有固定的一种叫法
2. 链接与其指向页面的标题要匹配
3. 对链接和已访问链接使用规范的色彩
4. 一致使用术语的普遍叫法

启发式评估（防止出错）

1. 使用朴素的语言来表述错误信息
2. 错误信息需要给出下一步操作提示
3. 错误信息提供清晰的离开标识
4. 错误信息提供详细的帮助信息

启发式评估（视觉清晰）

1. 布局清晰
2. 足够的留白
3. 所有图片都有alt标记
4. 使用标准的模版

问题？