ACUMEN
DEVELOPERS

Software Design Document

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Radford University Software Engineering
www.radford.edu/softeng18
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Review & Approval

Requirements Document Approval History

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1 Contents

1 CONTENTS II

2 INTRODUCTION 1

2.1 SYSTEM OVERVIEW 1
2.2 SUPPORTING MATERIALS 1
2.3 DEFINITIONS AND ACRONYMS 1

3 FUNCTIONAL REQUIREMENTS MAPPING OVERVIEW 2

4 HIGH LEVEL DESIGN 5

4.1 CONCEPTUAL VIEW (ARCHITECTURAL CONTEXT MODEL) 5

5 LOW LEVEL DESIGN 6

5.1 PROCESS MODEL 6

6 USER INTERFACE DESIGN 7

6.1 APPLICATION CONTROL 7
6.2 SCREEN 1 FACEBOOK 8
6.2 SCREEN 3 CMS 9
6.2 SCREEN 3 TWITTER 10
6.2 SCREEN 4 WEB MOCKUP 11

7 FINAL SCHEDULE 12

8 FINAL BUDGET 13

2 Introduction

2.1 System Overview

Upon completion the project will be a synergized internet social presence (Facebook, Twitter) with a MissionFish account and PayPal donation. A homepage will function as a centralized location where information from external social media and internal information will be displayed. The website will make use of a Wordpress content management system to provide a high level way for administrators to easily change information displayed on the homepage. Links to an external donation page and events will be highlighted. Any updates to the Facebook page will automatically be posted to the twitter page to reduce the number of updates that will have to be manually updated.

2.2 Supporting Materials

http://www.radford.edu/softeng01
http://www.idanrv.org
http://givingworks.ebay.com/
http://www.feng-gui.com/ (User Interface Heat Mapping)
http://colorschemedesigner.com/ (Color Scheme Builder)
Adobe Photoshop
Adobe Dreamweaver
Microsoft Visio
Microsoft Project

2.3 Definitions and Acronyms

- HTML: Hyper-Text Markup Language
- IDA: Intellectual Disabilities Agency
- IDANRV: Intellectual Disabilities Agency of the New River Valley
- PS: Photoshop
- DW: Adobe Dreamweaver
- CMS: Content Management System
- PHP: PHP Hypertext Processor
- W3C: World Wide Web Consortium
- SQL: Structured Query Language
- CSS: Cascading Style Sheets
- API: Application Programming Interface

3 Functional Requirements Mapping Overview

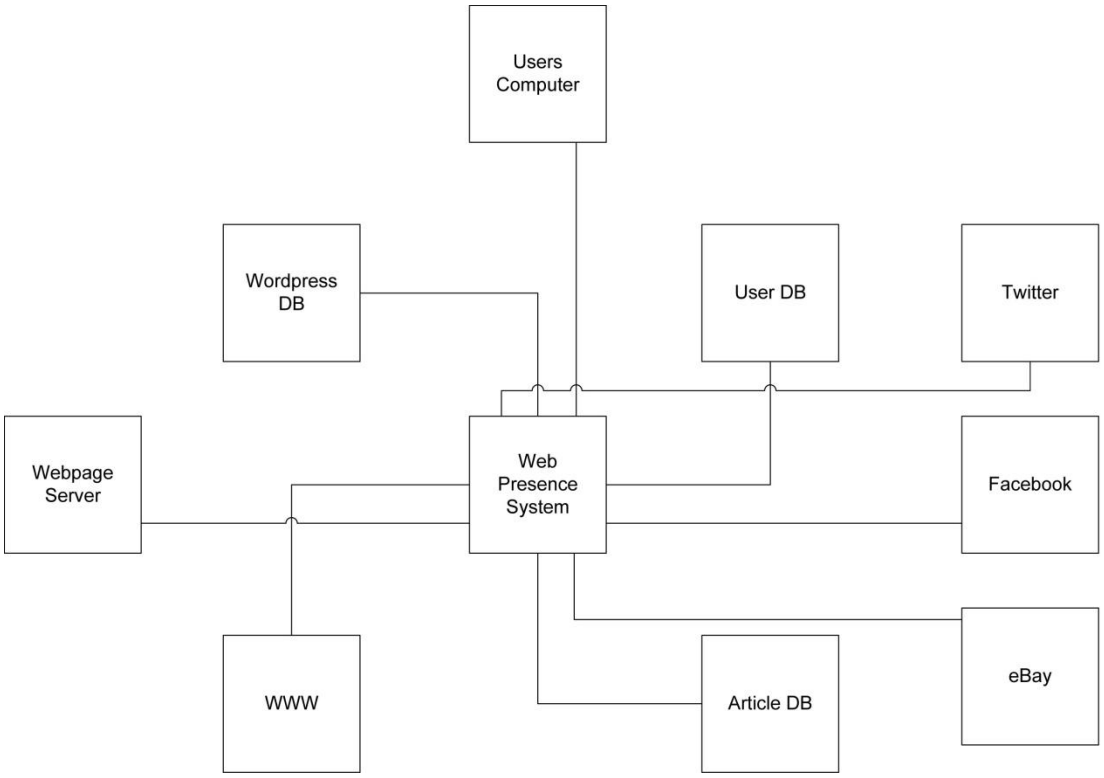
Functional Requirement	Design Artifact
1. **The website shall prevent any non administrator from editing the website through password protection.** Before being allowed access into the administration portal of the CMS a user must first provide a valid user name and password.	Figure 6: A screenshot of the log in screen
2. **Administrators shall be able to create an article for the website from the CMS.** The CMS provides different ways to post a new article to the website.	Figure 5: A screenshot of the article creation page
3. **Administrators shall be able to modify an article by using the CMS.** Administrators have the ability to modify or edit an existing article to change or fix information presented.	Figure 7: A screenshot of the article editing page
4. **Administrators shall be able to remove an article by using the CMS.** Administrator users can use the CMS to completely delete an existing article.	Figure 5: A screenshot of the article removal page
5. **The website shall allow individuals to contact the organization by email.** Contact information is displayed in the navigation bar of the homepage.	Figure 5: A screenshot of the contact information page
6. **The website shall link to internal and external internet nodes.** The website will display navigation elements to internal pages as well as external social networking sites.	Figure 6: A screenshot of the navigation elements
7. **The website shall be W3C certified for browsers supporting HTML 4.01 and CSS2** The website will have verified HTML and CSS static pages	(No Screenshot)

8. **Administrators shall be able to create a new status message within Facebook.** Administrators will be able to post Facebook status updates.	Figure 1: Screenshot of Facebook admin status update window
9. **Administrators shall be able to appoint new administrators within Facebook.** Administrators have the ability to appoint other administrators (with a valid Facebook account) to the group via friend list or email.	Figure 2: Screenshot of Facebook admin appointment window
10. **Administrators shall be able to remove administrators within Facebook.** Administrators have the ability to remove any of the other administrators.	Figure 2: Screenshot of Administrator removal page
11. **Administrators shall be able to add new events in Facebook.** An IDA administrator can add new events to the Facebook page.	Figure 3: Screenshot of Administrator adding a new event
12. **Administrators shall be able to modify events in Facebook.** An IDA Facebook administrator has the ability to modify existing events.	Figure 3: Screenshot of Administrator modifying an existing event
13. **Administrators shall be able to invite Facebook account holders to upcoming Facebook events.** IDA Facebook administrators have the ability to invite friends and followers to upcoming events.	Figure 3: Screenshot of Administrator inviting friends and followers to upcoming events
14. **The website and corresponding social elements shall implement a uniform graphic identity approved by the IDANRV committee.** The website and the external social media elements (Facebook, Twitter) will observe a similar graphic identity.	(No Screenshot)
15. **The CMS shall provide a function to retrieve a forgotten password.** In the event that a user forgets their password, the CMS will provide a way of accessing it without the need of a server administrator's assistance.	Figure 6: Screenshot of the CMS password retrieval system

16. **The website should implement a monochromatic color scheme featuring turquoise and brown for the neutral.** The main website will exhibit a turquoise monochromatic color scheme .	Figure 10: Screenshot of the Homepage.
17. **A MissionFish shall be set up to allow donations through eBay transactions.** A MissionFish account will be set up to allow donations through various eBay sellers.	Figure 10: Screenshot of the MissionFish main page
18. **The website shall provide a donation button on the home page.** A donation button will be addressed on the index page of the main website.	Figure 10: Screenshot of the donation button
19. **A tutorial option shall be made available on the CMS to provide instructions for administrators to manage the web presence.** A help option will be available in the CMS dashboard for inexp-rienced users to reference to.	Figure 4: Screenshot of a help tutorial
20. **The facebook status updates shall be simultaneously updated to the twitter page.** Facebook status changes will automatically display on the Twitter account as a courtesy to the administrator.	Figure 8: Screenshot of Facebook/Twitter simultaneously

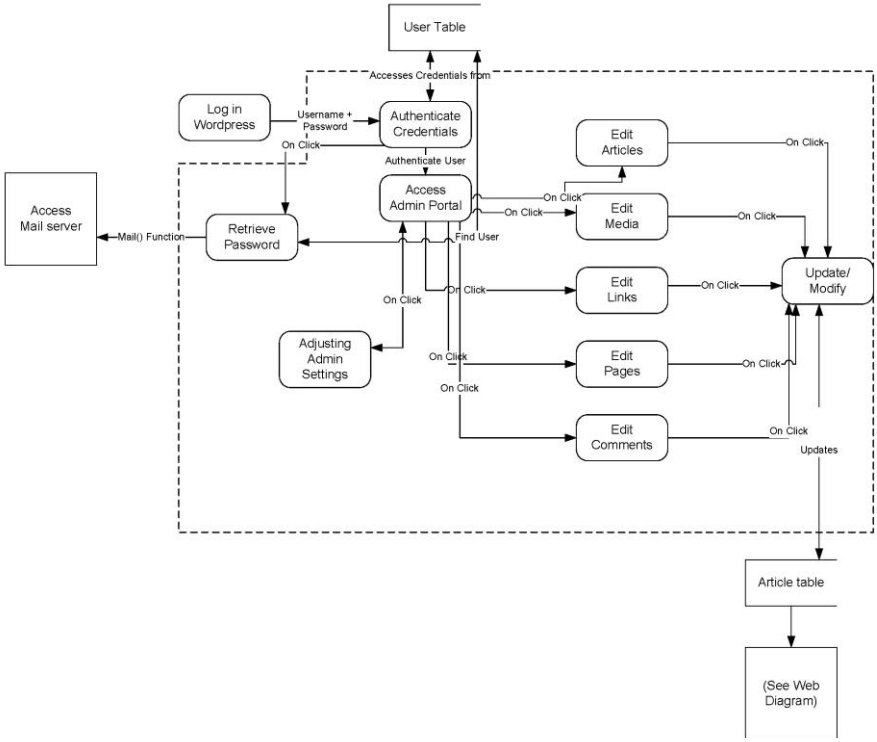
4 High Level Design

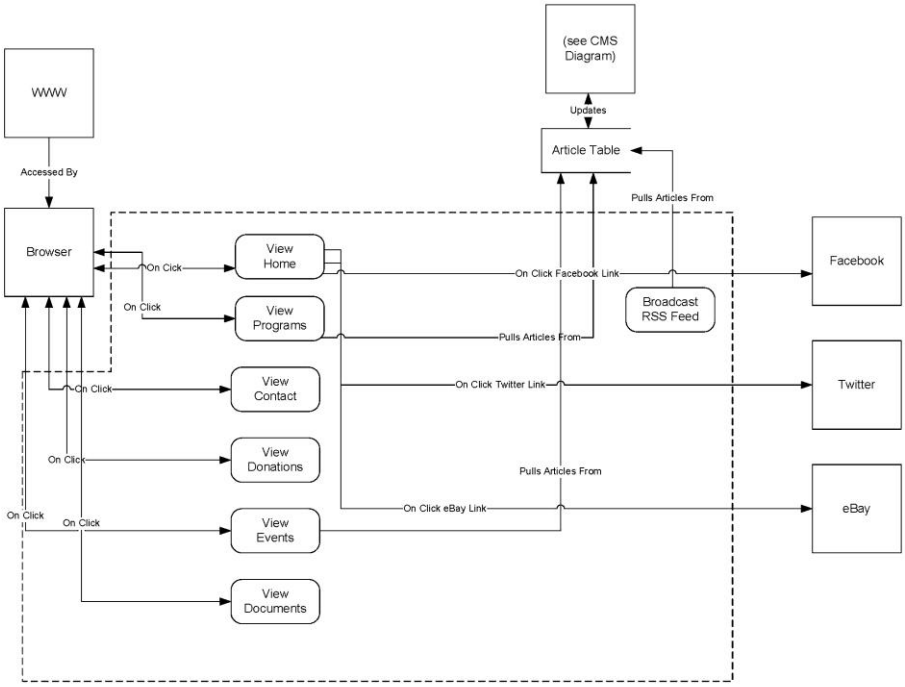
4.1 Conceptual View (Architectural Context Model)



5 Low Level Design

5.1 Process Model





6 User Interface Design

6.1 Application Control

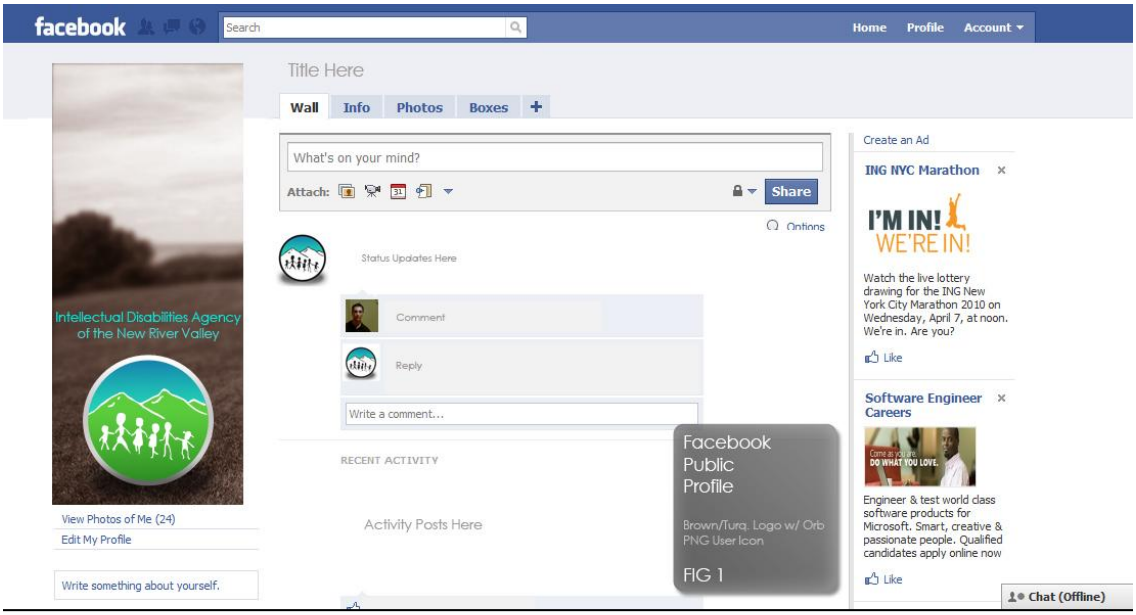
Color Scheme:

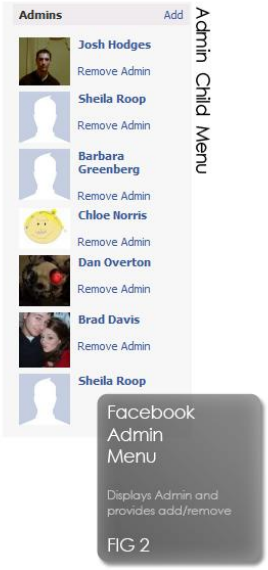
The IDA presented us with a monochromatic color scheme of turquoise and brown; a total of six shades of turquoise and three shades of brown were chosen to present a uniform graphic identity.

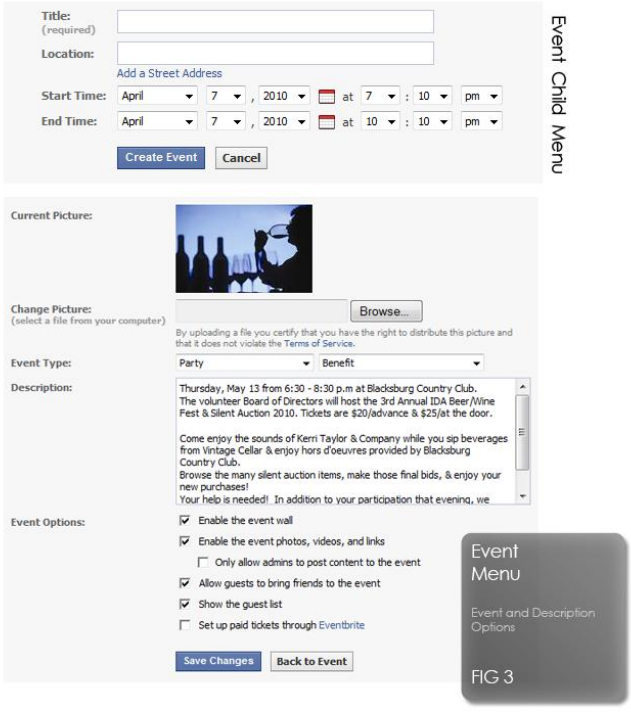
Interface Summary

The website will be compatible with all major web browsers. As mentioned above, the requested color scheme that is incorporated in the IDA web site is also present in the Facebook and Twitter accounts. Those who interact with the IDA Facebook and Twitter pages will be able to interact with the IDA and be exposed to all upcoming events and updates. The website will serve as the main gateway to users, and will also include the links to the Facebook, Twitter and eBay accounts.

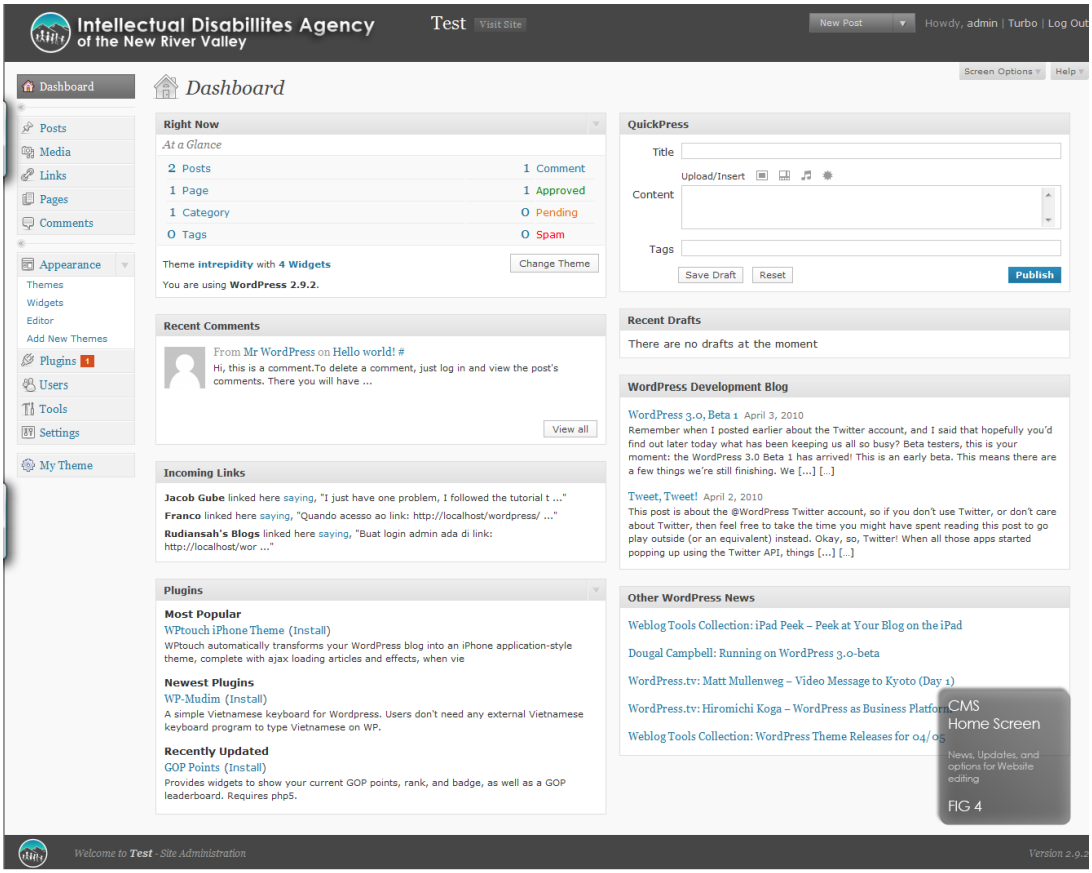
6.2 Screen 1 Facebook

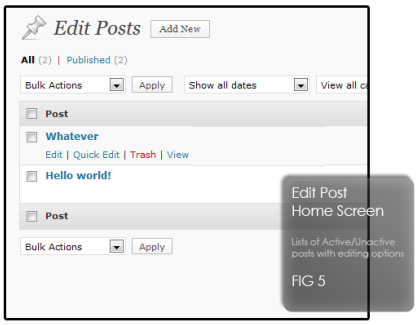


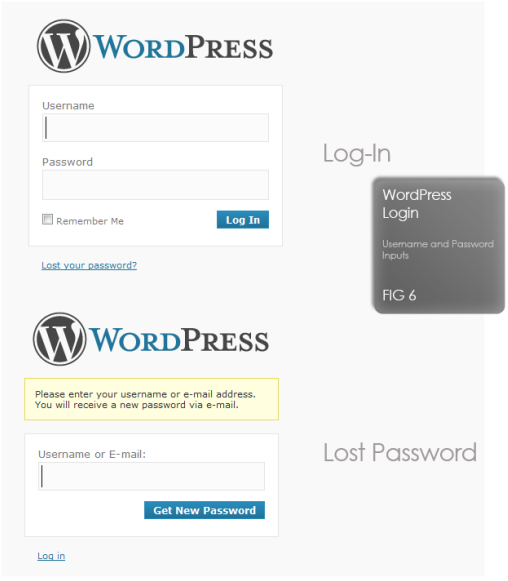


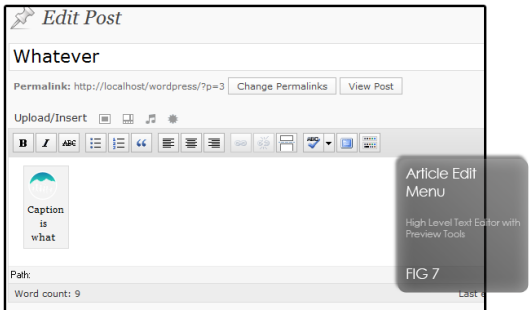


6.2 Screen 3 CMS

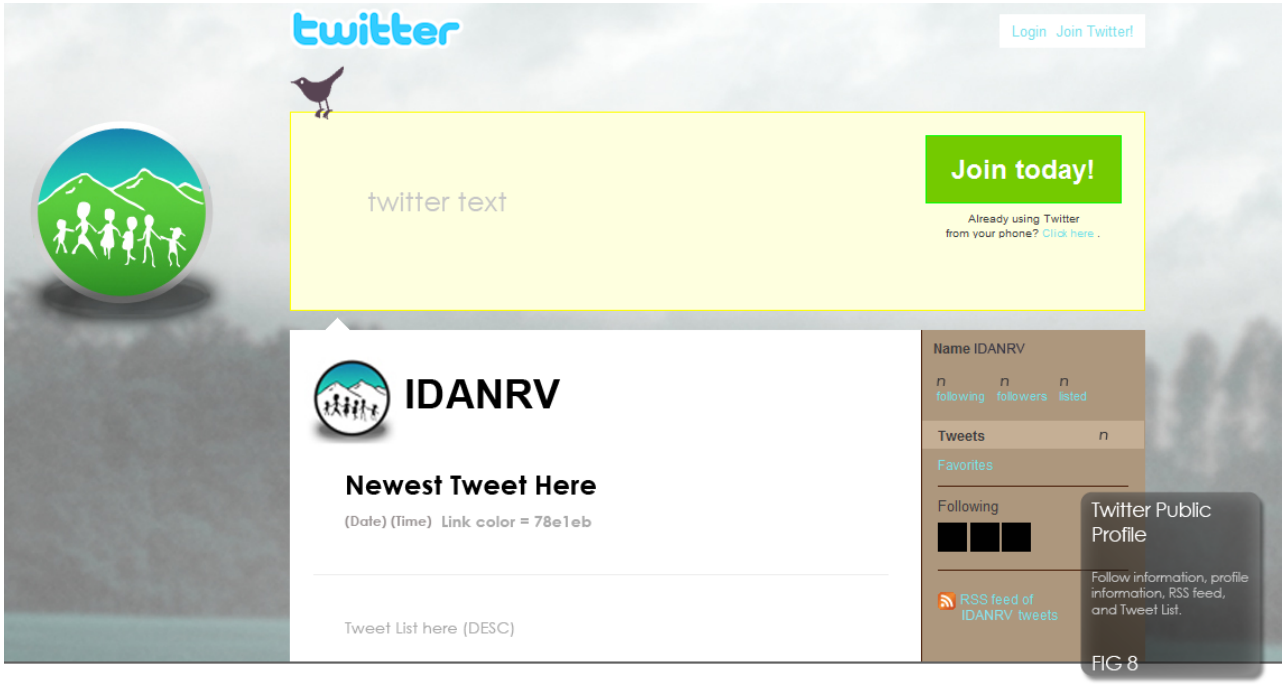


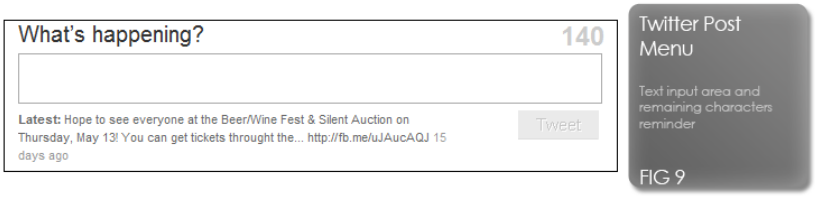




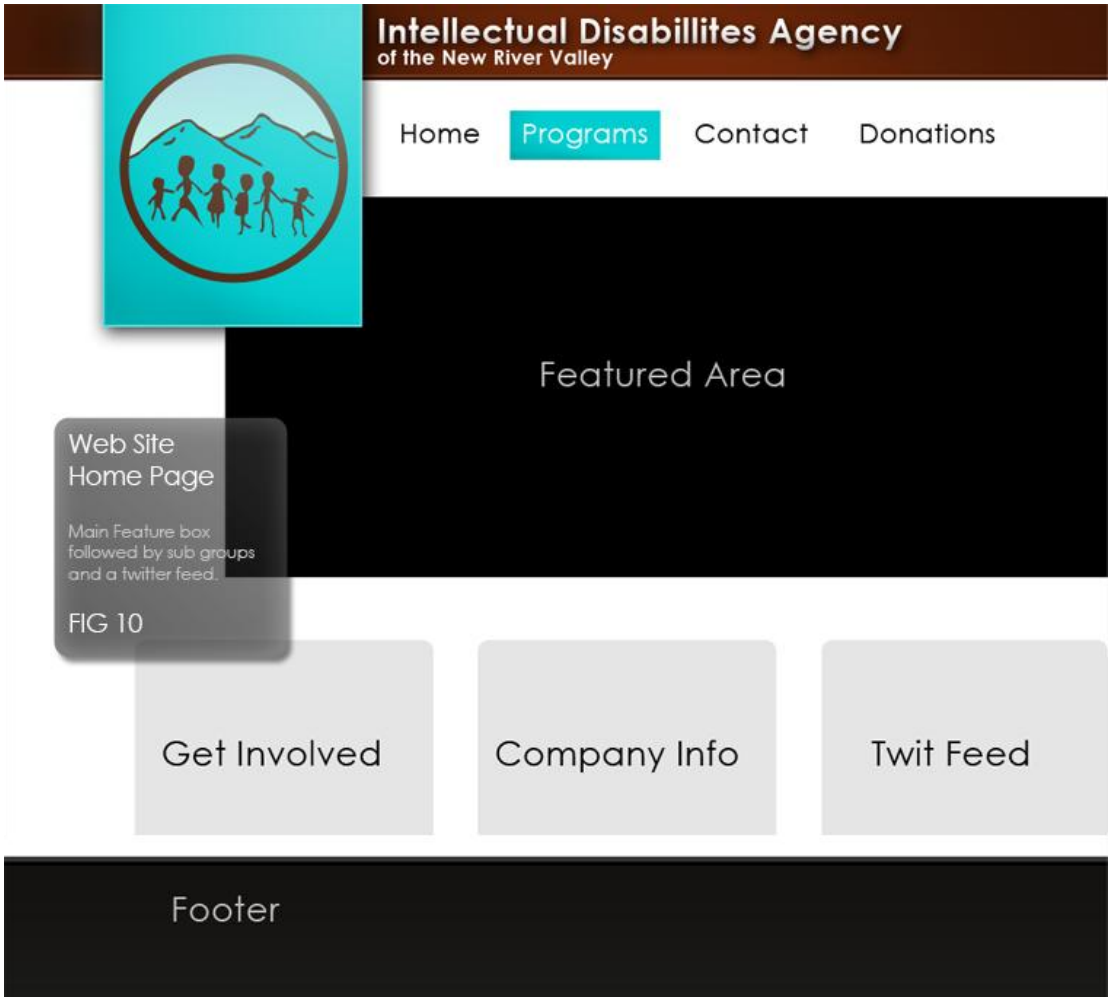


6.2 Screen 3 Twitter





6.2 Screen 4 Web Mockup



7 Final Schedule

ID	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1	**Software Engineering Project**	**48.5 days**	**Sun 1/31/10**	**Sun 4/25/10**		**1. ALL**
2	**Initial Team Meeting**	**2 days**	**Sun 1/31/10**	**Sun 1/31/10**		**1. ALL**
3	Logo Design	1 day	Sun 1/31/10	Sun 1/31/10		1. ALL
4	Web Development	1 day	Sun 1/31/10	Sun 1/31/10	3	1. Josh (WD)
5	**Planning**	**12.25 days**	**Sun 1/31/10**	**Tue 2/23/10**	**2**	**1. Chloe (PM)**
6	**Initial Planning Meeting**	**1 day**	**Sun 1/31/10**	**Tue 2/2/10**		**1. ALL**
7	Assign Roles	0.5 days	Sun 1/31/10	Sun 1/31/10		1. Chloe (PM)
8	Brainstorm	0.5 days	Tue 2/2/10	Tue 2/2/10	7	1. ALL
9	**Write/Organize Document**	**11.25 days**	**Tue 2/2/10**	**Tue 2/23/10**	**6**	**1. ALL**
10	Team Info	0.25 days	Tue 2/2/10	Thu 2/4/10		1. Chloe (PM)
11	Project Objectives	1 day	Thu 2/4/10	Sun 2/7/10	10	1. Chloe (PM)
12	Scope	1 day	Sun 2/7/10	Sun 2/7/10	11	1. ALL
13	Project Success Criteria	1 day	Sun 2/7/10	Sun 2/7/10	12	1. Brad
14	Resources	1 day	Sun 2/7/10	Thu 2/11/10	13	1. ALL
15	Stakeholders	1 day	Thu 2/11/10	Sun 2/14/10	14	1. Josh (WD)
16	Risk Analysis	1 day	Sun 2/14/10	Sun 2/14/10	15	1. ALL
17	Project Managers	1 day	Sun 2/14/10	Sun 2/14/10	16	1. Brad
18	Project Objectives and Priorities	1 day	Tue 2/16/10	Thu 2/18/10	17	1. ALL
19	Project Plan	1 day	Thu 2/18/10	Sun 2/21/10	18	1. Dan (TM1)
20	Budget	1 day	Sun 2/21/10	Sun 2/21/10	19	1. Dan (TM1)
21	Review	1 day	Sun 2/21/10	Tue 2/23/10	20	1. ALL
22	**Requirements**	**9.63 days**	**Tue 3/2/10**	**Sun 3/21/10**	**5**	**2. Dan (PM)**
23	Initial Meeting	0.38 days	Tue 3/2/10	Tue 3/2/10		2.ALL
24	**Software Requirements Document**	**8.25 days**	**Sun 3/7/10**	**Sun 3/21/10**	**23**	
25	Introduction	0.25 days	Sun 3/7/10	Sun 3/7/10		2. Josh (WD)
26	General Description	0.25 days	Sun 3/7/10	Sun 3/7/10	25	2. Chloe (TM1)
27	Identified Functional Requirements	0.25 days	Sun 3/7/10	Sun 3/7/10	26	
28	Interface Requirements	0.25 days	Sun 3/7/10	Sun 3/7/10	27	2. Josh (WD)
29	Performance Requirements	0.5 days	Sun 3/14/10	Sun 3/14/10	28	2. Brad (TM2)
30	Non-Functional Attributes	0.2 days	Sun 3/14/10	Sun 3/14/10	29	2. Brad (TM2)
31	Operational Scenarios	0.5 days	Sun 3/14/10	Sun 3/14/10	30	2. Chloe (TM1)
32	Designed Use Case Diagram	0.5 days	Sun 3/14/10	Sun 3/14/10	31	2. Dan (PM)
33	Designed Sequence Diagram	0.5 days	Sun 3/14/10	Sun 3/14/10	32	2. Dan (PM)
34	Updated Schedule	0.5 days	Tue 3/16/10	Tue 3/16/10	33	2. Josh (WD)
35	Updated Budget	0.5 days	Tue 3/16/10	Thu 3/18/10	34	2. Josh (WD)
36	Appendices	0.5 days	Sun 3/21/10	Sun 3/21/10	35	2. Brad (TM2)
37	**Design**	**7.25 days**	**Tue 3/23/10**	**Sun 4/4/10**	**22**	**3. Josh (PM)**
38	Initial Meeting	0.5 days	Tue 3/23/10	Tue 3/23/10		3.ALL
39	System Overview	0.5 days	Tue 3/23/10	Thu 3/25/10	38	3.Chloe (TM1)
40	Definitions and Acronyms	0.2 days	Thu 3/25/10	Thu 3/25/10	39	3. Dan (TM2)
41	Architectural Context Model	0.2 days	Thu 3/25/10	Sun 3/28/10	40	3. Brad(TM3)
42	Process Model	1 day	Sun 3/28/10	Sun 3/28/10	41	3. Brad(TM3)
43	Application Control	0.5 days	Sun 3/28/10	Sun 3/28/10	42	2. Chloe (TM1)
44	Screen 1..n	1 day	Sun 3/28/10	Tue 3/30/10	43	1. Dan (TM2)
45	Final Schedule	1 day	Tue 3/30/10	Thu 4/1/10	44	3. Josh (PM)
46	Final Budget	1 day	Sun 4/4/10	Sun 4/4/10	45	3. Josh (PM)
47	**Supporting Materials**	**7.25 days**	**Tue 4/6/10**	**Sun 4/18/10**	**37**	**4. Brad (PM)**
48	Initial Meeting	7.25 days	Tue 4/6/10	Sun 4/18/10		4.ALL
49	**Presentation**	**1 day**	**Tue 4/20/10**	**Thu 4/22/10**	**47**	**5. Chloe (PM)**
50	Initial Meeting	1 day	Tue 4/20/10	Thu 4/22/10		5.ALL
51	User Manual	1 day	Thu 4/22/10	Sun 4/25/10	50	5.ALL
52	Web Updates	46 days	Tue 2/2/10	Sun 4/25/10	2	1. Josh (WD)

8 Final Budget

Project1

ID	Task Name	Total Cost	Baseline	Variance	Actual	Remaining
1	**Software Engineering Project**	**$172,159.00**	**$197,935.00**	**($25,776.00)**	**$0.00**	**$172,159.00**
2	**Initial Team Meeting**	**$5,160.00**	**$5,160.00**	**$0.00**	**$0.00**	**$5,160.00**
3	Logo Design	$1,600.00	$1,600.00	$0.00	$0.00	$1,600.00
4	Web Development	$360.00	$360.00	$0.00	$0.00	$360.00
5	**Planning**	**$38,440.00**	**$38,440.00**	**$0.00**	**$0.00**	**$38,440.00**
6	**Initial Planning Meeting**	**$2,700.00**	**$2,700.00**	**$0.00**	**$0.00**	**$2,700.00**
7	Assign Roles	$300.00	$300.00	$0.00	$0.00	$300.00
8	Brainstorm	$800.00	$800.00	$0.00	$0.00	$800.00
9	**Write/Organize Document**	**$28,390.00**	**$28,390.00**	**$0.00**	**$0.00**	**$28,390.00**
10	Team Info	$150.00	$150.00	$0.00	$0.00	$150.00
11	Project Objectives	$600.00	$600.00	$0.00	$0.00	$600.00
12	Scope	$1,600.00	$1,600.00	$0.00	$0.00	$1,600.00
13	Project Success Criteria	$320.00	$320.00	$0.00	$0.00	$320.00
14	Resources	$1,600.00	$1,600.00	$0.00	$0.00	$1,600.00
15	Stakeholders	$360.00	$360.00	$0.00	$0.00	$360.00
16	Risk Analysis	$1,600.00	$1,600.00	$0.00	$0.00	$1,600.00
17	Project Managers	$320.00	$320.00	$0.00	$0.00	$320.00
18	Project Objectives and Priorities	$1,600.00	$1,600.00	$0.00	$0.00	$1,600.00
19	Project Plan	$320.00	$320.00	$0.00	$0.00	$320.00
20	Budget	$320.00	$320.00	$0.00	$0.00	$320.00
21	Review	$1,600.00	$1,600.00	$0.00	$0.00	$1,600.00
22	**Requirements**	**$8,139.00**	**$24,475.00**	**($16,336.00)**	**$0.00**	**$8,139.00**
23	Initial Meeting	$600.00	$17,800.00	($17,200.00)	$0.00	$600.00
24	**Software Requirements Document**	**$1,764.00**	**$0.00**	**$1,764.00**	**$0.00**	**$1,764.00**
25	Introduction	$90.00	$0.00	$90.00	$0.00	$90.00
26	General Description	$80.00	$0.00	$80.00	$0.00	$80.00
27	Identified Functional Requirements	$0.00	$0.00	$0.00	$0.00	$0.00
28	Interface Requirements	$90.00	$0.00	$90.00	$0.00	$90.00
29	Performance Requirements	$160.00	$0.00	$160.00	$0.00	$160.00
30	Non-Functional Attributes	$64.00	$0.00	$64.00	$0.00	$64.00
31	Operational Scenarios	$160.00	$0.00	$160.00	$0.00	$160.00
32	Designed Use Case Diagram	$300.00	$0.00	$300.00	$0.00	$300.00
33	Designed Sequence Diagram	$300.00	$0.00	$300.00	$0.00	$300.00
34	Updated Schedule	$180.00	$0.00	$180.00	$0.00	$180.00
35	Updated Budget	$180.00	$0.00	$180.00	$0.00	$180.00
36	Appendices	$160.00	$0.00	$160.00	$0.00	$160.00
37	**Design**	**$6,510.00**	**$15,950.00**	**($9,440.00)**	**$0.00**	**$6,510.00**
38	Initial Meeting	$800.00	$11,600.00	($10,800.00)	$0.00	$800.00
39	System Overview	$0.00	$0.00	$0.00	$0.00	$0.00
40	Definitions and Acronyms	$0.00	$0.00	$0.00	$0.00	$0.00
41	Architectural Context Model	$0.00	$0.00	$0.00	$0.00	$0.00
42	Process Model	$0.00	$0.00	$0.00	$0.00	$0.00
43	Application Control	$160.00	$0.00	$160.00	$0.00	$160.00
44	Screen 1..n	$0.00	$0.00	$0.00	$0.00	$0.00
45	Final Schedule	$600.00	$0.00	$600.00	$0.00	$600.00
46	Final Budget	$600.00	$0.00	$600.00	$0.00	$600.00
47	**Supporting Materials**	**$15,950.00**	**$15,950.00**	**$0.00**	**$0.00**	**$15,950.00**
48	Initial Meeting	$11,600.00	$11,600.00	$0.00	$0.00	$11,600.00
49	**Presentation**	**$2,200.00**	**$2,200.00**	**$0.00**	**$0.00**	**$2,200.00**
50	Initial Meeting	$1,600.00	$1,600.00	$0.00	$0.00	$1,600.00
51	User Manual	$1,600.00	$1,600.00	$0.00	$0.00	$1,600.00
52	Web Updates	$16,560.00	$16,560.00	$0.00	$0.00	$16,560.00

Page 1