

System and Software Architecture Description (SSAD)

Web Media Modernization 2012

Team 7

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Version History

Date	Author	Version	Changes made	Rationale
10/10/2012	Shawn Han & Prayaas Jain	1.0	<ul style="list-style-type: none"> Original template for use with Instructional ICM-Sw v1.0 	<ul style="list-style-type: none"> Initial draft for use with Instructional ICM-Sw v1.0
10/15/2012	Shawn Han & Prayaas Jain & Adam Smith	2.0	<ul style="list-style-type: none"> Completing the Introduction and system analysis 	<ul style="list-style-type: none"> Based on the system analysis result and ICSM EPG to complete the SSAD
10/29/2012	Shawn Han & Prayaas Jain	2.1	<ul style="list-style-type: none"> System Context Diagram, Actor Summary Artifacts and Information Diagram Process Diagram 	<ul style="list-style-type: none"> Correct the Diagram with further analysis
11/04/2012	Shawn Han & Prayaas Jain	3.0	<ul style="list-style-type: none"> NDI/NCS interoperability analysis 	<ul style="list-style-type: none"> Analysis the NDI candidates interoperability to promise the cooperate between them
11/26/2012	Shawn Han	4.0	<ul style="list-style-type: none"> Change the system context diagram Revised the Artifacts and Information Diagram Change the use-case diagram and diagram 	<ul style="list-style-type: none"> Based on the further analysis of the use case
11/27/2012	Shawn Han	4.1	<ul style="list-style-type: none"> Improve the use case 	<ul style="list-style-type: none"> Provide more essential information for alternative/ exception
12/10/2012	Shawn Han	4.2	<ul style="list-style-type: none"> Fix the content based on Bugzilla 	<ul style="list-style-type: none"> Corresponding to Bugzilla

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1. Introduction

1.1 Purpose of the SSAD

The purpose of the SSAD is to document the results of the analysis and design of the system being developed. The developers use the SSAD as a reference to the system architecture. The system being developed should be faithful to the architecture specified in the SSAD. Furthermore, the maintainer and the client use the SSAD to understand the structure of the system once the proposed system is delivered.

1.2 Status of the SSAD

- Sections 1 and 2 have been updated on the basis of the ICSM EPG model and the System Architecture.
- Completing the Introduction and system analysis based on the system analysis result and ICSM EPG
- The System Context Diagram, Actor Summary Artifacts and Information Diagram Process Diagram has been fixed
- NDI/NCS interoperability analysis has been established.
- Update the SSAD to reflect the finished project.

2. System Analysis

2.1 System Analysis Overview

The purpose of revamping the CSC Website is to increase traffic flow to the website. The system intends to achieve the goal of increased traffic flow by using an attractive template and integrating social media components such as Facebook, Twitter, YouTube, Google Plus, LinkedIn into the website. A Google Calendar will be implemented on the website showing all upcoming events. This feature will make it easy for users to subscribe to the calendar and be updated about the events. This will result in increased participation in CSC events as well as the reputation of CSCLA.

2.1.1 System Context

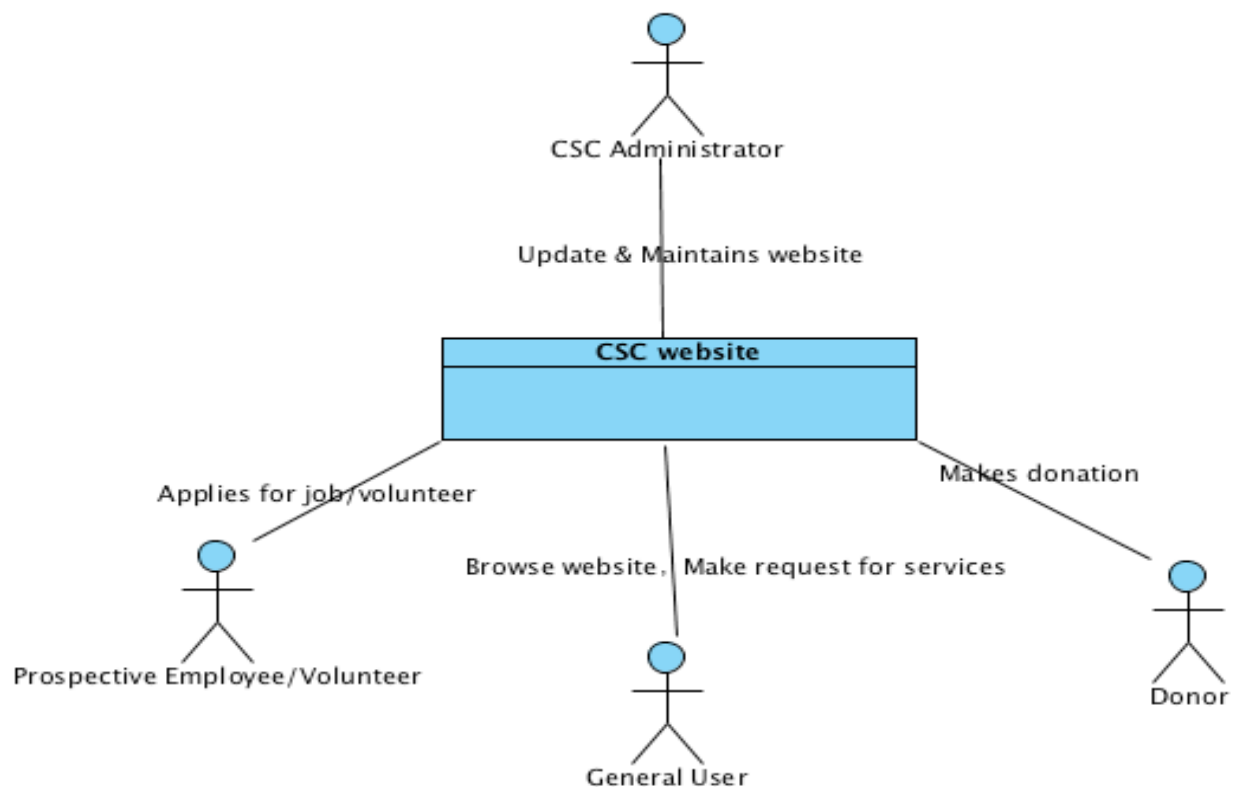
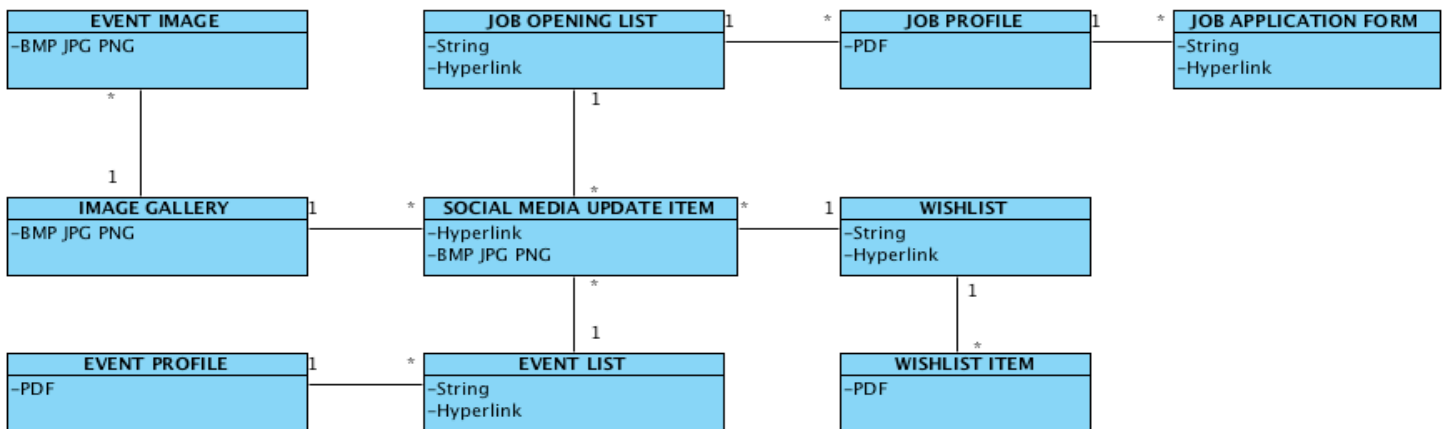


Figure 1: System Context Diagram

Table 1: Actors Summary

Actor	Description	Responsibilities
CSC Maintainer	Member of the CSC Development Team	Maintains and updates the website
Prospective Employee/Volunteer	General user interested in working with/for CSC	Applies for Job/Volunteer position
General User	Any person visiting website	Browses the website
Organization/Individual	Persons catered-to by CSC	Make requests for services to CSC and/or organizes events for CSC
Donor	Person interested in making monetary donations	Makes donation

2.1.2 Artifacts & Information

**Figure 2: Artifacts and Information Diagram****Table 2: Artifacts and Information Summary**

Artifact	Purpose
Social Media Update Item	Gives updates about recent activities by CSC on a public forum (social media websites)
Job Opening List	Gives a list of the Jobs available with CSC
Event List	Gives a list of the upcoming events for the next 90-120 days
WishList	Shows a list of the requests made by the various organizations/individuals
Image Gallery	Shows all images uploaded by CSC
Job Profile	Gives a brief description of what a particular job entails
Job Application Form	Sends information about the applicant to CSC
Event Profile	Gives a brief description about an upcoming event
Event Image	An image uploaded by CSC for their most recent event
WishList Item	A particular request made by an organization/individual

2.1.3 Behavior

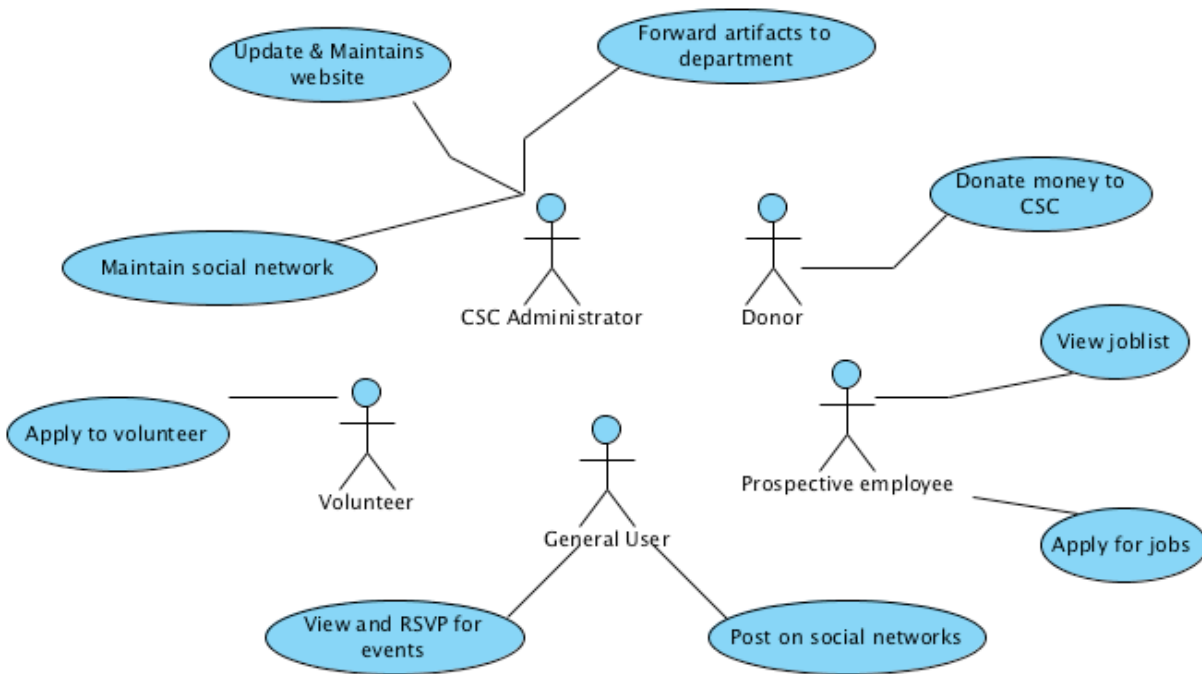


Figure 3: Process Diagram

2.1.3.1 Calendar Event List

2.1.3.1.1 Applying to Volunteer

Table 3: Process Description-UC1

Identifier	UC-1: Volunteers that wish to apply
Purpose	Allow volunteers get the job information and apply easier and save the money and time of paper advertisement for CSC
Requirements	Calendar Event List
Development Risks	None
Pre-conditions	User finds an event they wish to volunteer for on the Community Events page
Post-conditions	User is on the page of Community Events

Table 4: Typical Course of Action-UC1

Seq#	Actor's Action	System's Response
1	User selects the list of upcoming events	System returns and displays a list of upcoming events
2	User finds an event they wish to volunteer for and selects the corresponding link	System returns and displays the events profile page
3	Users finds link to apply and selects it	Web page launches the users email client with a new message window prepopulated with the destination email address
4	User fills out email to apply to be a volunteer, and once finished hits send	System holds email from applicant until the maintainer forwards the email to the correct department

Table 5: Alternate Course of Action-UC1

Seq#	Actor's Action	System's Response
1	User selects the list of upcoming events	System returns and displays a list of upcoming events
2	User find the event's link of LinkedIn and click on it	System redirect to the event page of LinkedIn

Table 6: Exceptional Course of Action-UC1

Seq#	Actor's Action	System's Response
1	User selects the list of upcoming events	The CMS/Host server down, f forward to a error page

2.1.3.1.2 View and RSVP for Events

Table 7: Process Description-UC2

Identifier	UC-2: Users wish to RSVP for an event
Purpose	Allow users RSVP for an event online so CSC can easily get the static information of the event
Requirements	Calendar Event List
Development Risks	None
Pre-conditions	User finds an event they wish to attend on the Community Events page
Post-conditions	User is on the page of News & Events

Table 8: Typical Course of Action-UC2

Seq#	Actor's Action	System's Response
1	User selects the page of upcoming events	System returns and displays a list of upcoming events with Google Calendar
2	User finds an event they wish to attend on the static table and selects the corresponding link	System returns and displays the events profile page
3	Users finds link to RSVP and selects it	System direct to the facebook event page for user to RSVP

Table 9: Alternate Course of Action-UC2

Seq#	Actor's Action	System's Response
1	User selects the page of upcoming events	System returns and displays a list of upcoming events with Google Calendar
2	User find the upcoming event on the Google Calendar then click on it to check information	Google Calendar shows the detail information of the upcoming events
3	User finds an event they wish to attend and selects the corresponding link	System returns and displays the events profile page
4	Users finds link to RSVP and selects it	System direct to the facebook event page for user to RSVP
5	User login Facebook account or register a new one to finish the RSVP	

Table 10: Exceptional Course of Action-UC2

Seq#	Actor's Action	System's Response
1	User selects the page of upcoming events	The CMS/Host server down cannot display the information correctly, forward to a error page

2.1.3.2 Site Management and Upkeep

2.1.3.2.1 Update and Maintain the Website

Table 11: Process Description-UC3

Identifier	UC-4: CSC Maintainer manages website
Purpose	Ease the process of updating the CSC website
Requirements	Site Management and Upkeep
Development Risks	None
Pre-conditions	CSC Maintainer receives a request to update information listed on the website and understand the process of maintain the website through Concrete5 (CMS)
Post-conditions	Administrator is on the Concrete5 website login page

Table 12: Typical Course of Action-UC3

Seq#	Actor's Action	System's Response
1	CSC Maintainer (user) logs into administrator panel of the website with correct information	The credentials are correct the user is allowed into the administrator panel
2	User navigates to the page that needs to be updated and selects "Edit"	System opens the page in edit mode allowing the user to make changes to content
3	User updates the data using the WYSIWYG editor and hits Save when finished	System saves the changes to the page

Table 13: Alternate Course of Action-UC3

Seq#	Actor's Action	System's Response
1	CSC Maintainer (user) logs into administrator panel of the website with incorrect password or username	Reject the login attempt and show the page of forget the username/password page
2	CSC Maintainer (user) provides the essential information to the database system	system verify the information and reset the password in the database
3	CSC Maintainer (user) logs into administrator panel of the website with correct information	If the credentials are correct the user is allowed into the administrator panel
4	User navigates to the page that needs to be updated and selects "Edit"	System opens the page in edit mode allowing the user to make changes to content
5	User updates the data using the WYSIWYG editor and hits Save when finished	System saves the changes to the page

Table 14: Exceptional Course of Action-UC3

Seq#	Actor's Action	System's Response
1	CSC Maintainer (user) logs into administrator panel of the website	The CMS server down, forward to a error page

2.1.3.2.2 Viewing Job List

Table 15: Process Description-UC4

Identifier	UC-5: Viewing job listings
Purpose	Allow the job applicants to find open positions at CSC
Requirements	Site Management and Upkeep
Development Risks	None
Pre-conditions	Applicant navigates to the CSC website to look for jobs
Post-conditions	User is on the CSC main page

Table 16: Typical Course of Action-UC4

Seq#	Actor's Action	System's Response
1	Job applicants (users) will select the Jobs link on the main page	System will return and display a list of active jobs
2	User will select jobs from the list to view more information	System will return the information for the particular job and display it on the webpage

Table 17: Alternate Course of Action-UC4

Seq#	Actor's Action	System's Response
1	Job applicants (users) will select the Jobs link on the main page	System will return and display a list of active jobs
2	User select the job and click on the LinkedIn job page link	System show the LinkedIn job page

Table 18: Exceptional Course of Action-UC4

Seq#	Actor's Action	System's Response
1	Job applicants (users) will select the Jobs link on the main page	The CMS/Host server down cannot display the information correctly, forward to a error page

2.1.3.2.3 Donating Money to CSC

Table 19: Process Description-UC5

Identifier	UC-6: Donating money
Purpose	Allow users to donate money
Requirements	Wish List for Donations
Development Risks	None
Pre-conditions	User has money to donate to CSC or for wish list item
Post-conditions	Donor is on the CSC main page

Table 20: Typical Course of Action-UC5

Seq#	Actor's Action	System's Response
1	Donors (users) select the Donation button in the top right	System will forward the user to the PayPal donation page (located on PayPal.com) for the CSC
2	Donors choose Paypal as the method for donation	System show Paypal donation page

Table 21: Alternate Course of Action-UC5

Seq#	Actor's Action	System's Response
1	Donors (users) will navigate to the webpage and select the Donation button in the top right	System will forward the user to the PayPal donation page (located on PayPal.com) for the CSC
2	Donors choose other way such as by mail, phone, or email to donate	System show the instruction page for particular donation method.

Table 7: Exceptional Course of Action-UC5

Seq#	Actor's Action	System's Response
1	Donors (users) will navigate to the webpage and select the Donation button in the top right	System will forward the user to the PayPal donation page (located on PayPal.com) for the CSC
2	Donors choose Paypal as the method for donation	The Paypal system unavailable, forward to a error page

3. NDI/NCS Interoperability Analysis

3.1 Introduction

In this project, Content Management System(CMS) will be use to interoperate with social media network API such as Twitter, Facebook, LinkedIn, YouTube.

3.1.1 COTS / GOTS / ROTS / Open Source / NCS

Table 23: NDI Products Listing

NDI/NCS Products	Purposes
CushyCMS	Website development and maintenance
Concrete5	
Drupal	
WordPress	
Google Calendar API	Implement Events List
Google Map API	Implement CSCLA site information
YouTube API	Link to YouTube channel and YouTube Plug-in on website

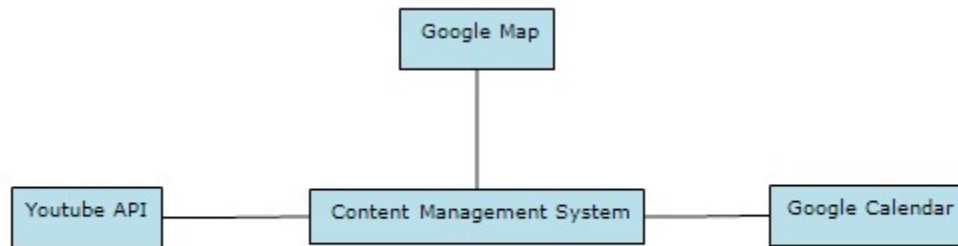
3.1.2 Connectors

In our project, instead of using a Connectors, writing API source code in our website through Content Management System (CMS) is enough to promise those NDI/NCS working together well.

3.1.3 Legacy System

- This system should work well on the Google Chrome (Version 23.0), Firefox (Version 16) which are the most popular web browsers.

3.2 System Structure



3.3 Evaluation Summary

Table 24: NDI Evaluation

NDI	Usages	Comments
Concrete5	Website development and maintenance	<ul style="list-style-type: none"> ● Very easy and flexible to build a new website ● Attractive template and API store ● Good version control ● Team member has experience with Concrete5
Drupal	Website development and maintenance	<ul style="list-style-type: none"> ● Free good model which still maintains by developer ● Easy for developer but not for designer or maintainer
WordPress	Website development and maintenance	<ul style="list-style-type: none"> ● Good for heavy website ● High-profile WordPress sites ● Not easy to customize website as Concrete5
CushyCMS	Website development and maintenance	<ul style="list-style-type: none"> ● No theme library available ● Administration panel with lots of advertisement for free version ● Not as easy and flexible as Concrete5
Google Calendar API	Implement events list	It will enable users to subscribe to the list events
Google Maps API	Implement map	It will enable user to have direct understanding of where all CSCLA office are
YouTube API	Implement link to YouTube channel and YouTube Plug-in on website	It will provide users with a link to the CSC YouTube channel and will enable maintainers to post videos on the CSC website using the plug-in

We only have the candidates for CMS.

For the rest NDIs, which are all requested by the client, no candidates for them.