System and Software Architecture Description (SSAD)

LiveRiot Video Editing System and social networking enhancement

Team 04

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12/08/2013

Version History

Date	Author	Version	Changes made	Rationale
10/13/13	Haoyu Huang	1.0	Original for CSCI577	Initial draft for use with LiveRiot social media v1.0
10/20/13	Haoyu Huang	2.0	● Section 2.1.2 Behavior - use case changed ● Section 3 added	Narrow down the requirement scope
12/01/13	Haoyu Huang	2.1	● System Context Diagram changed ● Section 2.1.2 Behavior – use case description changed ● Artifact & Information Section added	Improvement for TRR review
12/08/13	Haoyu Huang	2.2	● Few update	

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1. Introduction

1.1 Purpose of the SSAD

The purpose of the SSAD is to document the results of the object-oriented analysis and design (OOA&D) of the website being developed. The SSAD is used by the developer as reference to the system architecture. The website being developed should be faithful to the architecture specified in the SSAD. Furthermore, the SSAD is used by the maintainer and clients to help understand the structure of the system once the proposed website is delivered.

1.2 Status of the SSAD

The status of the SSAD is currently at the Foundations phase version number 1.0. This is the first version of this document.

2. System Analysis

2.1 System Analysis Overview

The primary purpose of Live Riot social network enhancement is to enable user to share videos to other mainstream social network system such as Facebook and Twitter. The Live Riot video app allows user to log in Facebook and Twitter via two approaches, either redirect to the app to authorize Live Riot video app or use web view. The Live Riot video app allows user to share video links to Facebook and Twitter with one click and user can view Live Riot videos on the Facebook and Twitter without redirection to the Live Riot website. Figure 1 is the System Context Diagram. Table 1 is the actors summary.

2.1.1 System Context

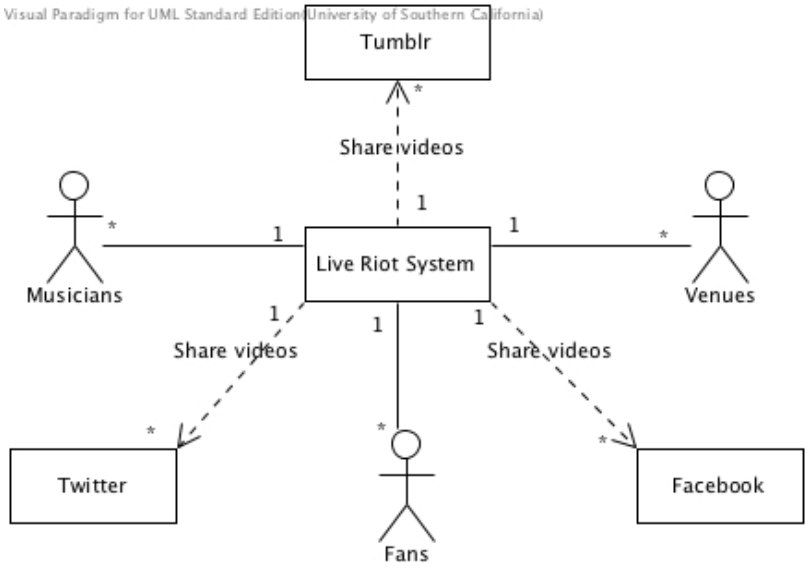

Figure 1: System Context Diagram

Table 1 Actors Summary

Actor	Description	Responsibilities
Fans	People who love live music and use LiveRiot app.	• Record videos • Stream videos • Share videos • Edit videos • View analytic dashboard

Actor	Description	Responsibilities
Venues	People who hold live music shows and cooperate with LiveRiot	• Record audios • Construct venue page • View analytic dashboard
Musicians	People who perform in live music shows and cooperate with LiveRiot	• Construct musician page • Stream videos • Search videos • Share videos • Edit videos • View analyst dashboard

2.1.2 Artifacts & Information

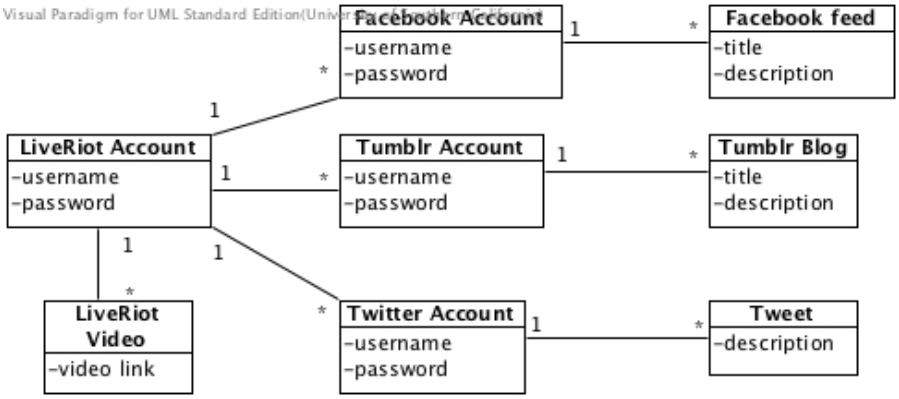

Figure 2: Artifacts and Information Diagram

Table 2 Artifacts and Information Summary

Artifact	Purpose
LiveRiot Account	Gives user ability to log in LiveRiot app
LiveRiot video	Gives video timeline and video detail
Facebook Account	Gives user ability to log in Facebook in LiveRiot app
Twitter Account	Gives user ability to log in Twitter in LiveRiot app
Tumblr Account	Gives user ability to log in Tumblr in LiveRiot app
Facebook feed	Gives user ability to share video as facebook feed in LiveRiot app
Tweet	Gives user ability to post tweets in LiveRiot app
Tumblr Blog	Gives user ability to post blogs to Tumblr in LiveRiot app

2.1.3 Behavior

Figure 2 illustrates the process diagram of Live Riot social network enhancement. Fans can share videos to Facebook and Twitter.

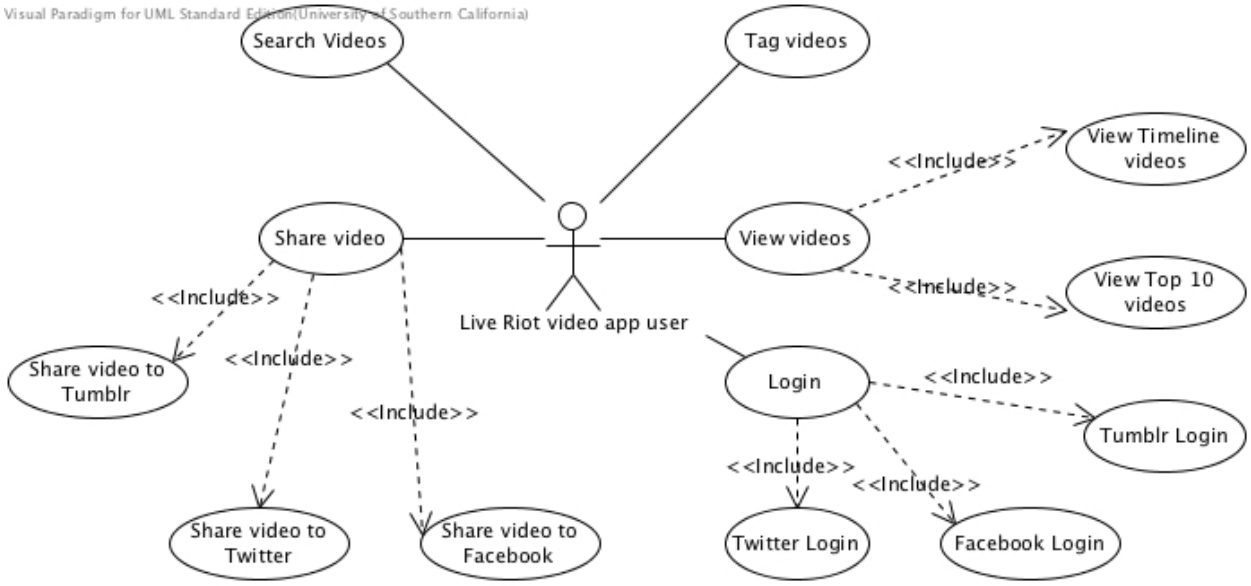

Figure 3: Process Diagram

1. Facebook Login
   Table 4 is the process description of Facebook Login. Table 5, Table 6, Table 7 illustrates the different Facebook login process via Facebook app, webpage and iOS native built-in Facebook. Table 8 and Table 9 is the exceptional courses of Facebook login. The primary reason for this exception is due to the third-party app is not authenticated on Facebook.

Table 3 Process Description (Facebook Login)

Identifier	UC-1: Facebook Login
Purpose	Log in Facebook
Requirements	WC_2799, WC_2511
Development Risks	Facebook Integration
Pre-conditions	User clicks on Facebook share button
Post-conditions	User log in Facebook

Table 4 Typical Course of Action (Facebook Login)

Seq#	Actor's Action	System's Response
1	User clicks Facebook share button	Redirect the user to the Facebook app
2	User authorize Live Riot video app to get contents from Facebook	User log in the Facebook

Table 5 Alternate Course of Action (Facebook Login)

Seq#	Actor's Action	System's Response
1	User clicks Facebook share button	Redirect the user to the Facebook login webpage in the web view
2	User tap in user name and password and click login button	User log in the Facebook

Table 6 Alternate Course of Action (Facebook Login)

Seq#	Actor's Action	System's Response
1	User clicks Facebook share button	Redirect the user to the iOS native built-in Facebook
2	User tap in user name and password and click login button	User log in the Facebook

Table 7 Exceptional Course of Action (Facebook Login)

Seq#	Actor's Action	System's Response
1	User clicks Facebook login button	Unauthenticated app, requires authentication.

Table 8 Exceptional Course of Action (Facebook Login)

Seq#	Actor's Action	System's Response
1	User tap in user name and password and click login button	Incorrect password or username doesn't exist.

2. Share videos on Facebook
   Table 10 illustrates the process description of sharing videos on Facebook. Table 11 demonstrates the course of action for the user to share videos on Facebook. Table 12 shows the exceptional courses of action via sharing videos. The primary reason is that the third-party app is not authenticated on Facebook.

Table 9 Process Description (Share videos on Facebook)

Identifier	UC-2: Share videos on Facebook
Purpose	Share Live Riot Video on Facebook
Requirements	WC_2799, WC_2511
Development Risks	Facebook Integration
Pre-conditions	User log in Facebook
Post-conditions	User shares Live Riot video on Facebook

Table 10 Typical Course of Action (Share videos on Facebook)

Seq#	Actor's Action	System's Response
1	User writes description about the video	Format of description is legal
2	User clicks the Facebook share button	Share success.

Table 11 Exceptional Course of Action (Share videos on Facebook)

Seq#	Actor's Action	System's Response
1	User writes description about the video	Format of description is legal
2	User clicks the Facebook share button	Unauthenticated app, requires authentication.

3. Twitter Login

Table 13 illustrates the process description of twitter login. Table 14, table 15, table 16 demonstrates the different approaches for Twitter login via Twitter app, webpage and native built-in twitter. Table 17 and Table 18 are the exceptional course of action for sharing videos on twitter. The primary reason is due to the third-party app is not authenticated on Twitter.

Table 12 Process Description (Twitter Login)

Identifier	UC-3: Twitter Login
Purpose	Log in Twitter
Requirements	WC_2799, WC_2511
Development Risks	Twitter Integration
Pre-conditions	User log in Twitter
Post-conditions	User shares Live Riot video on Twitter

Table 13 Typical Course of Action (Twitter Login)

Seq#	Actor's Action	System's Response
1	User clicks Twitter share button	Redirect the user to the Twitter app
2	User authorize Live Riot video app to get contents from Twitter	User log in the Twitter

Table 14 Alternate Course of Action (Twitter Login)

Seq#	Actor's Action	System's Response
1	User clicks Twitter share button	Redirect the user to the Twitter login webpage in the Safari
2	User tap in user name and password and click login button	User log in the Twitter

Table 15 Alternate Course of Action (Twitter Login)

Seq#	Actor's Action	System's Response
1	User clicks Twitter share button	Redirect the user to the iOS native built-in Twitter
2	User tap in user name and password and click login button	User log in the Twitter

Table 16 Exceptional Course of Action (Twitter Login)

Seq#	Actor's Action	System's Response
1	User clicks Twitter login button	Unauthenticated app, requires authentication.

Table 17 Exceptional Course of Action (Twitter Login)

Seq#	Actor's Action	System's Response
1	User tap in user name and password and click login button	Incorrect password or username doesn't exist.

4. Share videos on Twitter
   Table 19 illustrates the process description of sharing videos on Twitter. Table 20 demonstrates the course of action for user to share videos on Twitter. Table 21 shows the exceptional courses of action via sharing videos. The primary reason is that the third-party app is not authenticated on Twitter.

Table 18 Process Description (Share videos on Twitter)

Identifier	UC-4: Share videos on Twitter
Purpose	Share Live Riot Video on Twitter
Requirements	WC_2799, WC_2511
Development Risks	Twitter Integration
Pre-conditions	User log in Twitter
Post-conditions	User shares Live Riot video on Twitter

Table 19 Typical Course of Action (Share videos on Twitter)

Seq#	Actor's Action	System's Response
1	User writes description about the video	Format of description is legal
2	User clicks the Twitter share button	Share success.

Table 20 Exceptional Course of Action (Share videos on Twitter)

Seq#	Actor's Action	System's Response
1	User writes description about the video	Format of description is legal
2	User clicks the Twitter share button	Unauthenticated app, requires authentication.

5. Tumblr Login

Table 22 illustrates the process description of Tumblr login. Table 23, table 24 demonstrates the different approaches for Tumblr login via Tumblr app, webpage. Table 25 and Table 26 are the exceptional course of action for sharing videos on Tumblr. The primary reason is due to the third-party app is not authenticated on Tumblr.

Table 21 Process Description (Tumblr Login)

Identifier	UC-5: Tumblr Login
Purpose	Log in Tumblr
Requirements	WC_2799, WC_2511
Development Risks	Tumblr Integration
Pre-conditions	User log in Tumblr
Post-conditions	User shares Live Riot video on Tumblr

Table 22 Typical Course of Action (Tumblr Login)

Seq#	Actor's Action	System's Response
1	User clicks Tumblr share button	Redirect the user to the Tumblr app
2	User authorize Live Riot video app to get contents from Tumblr	User log in the Tumblr

Table 23 Alternate Course of Action (Tumblr Login)

Seq#	Actor's Action	System's Response
1	User clicks Tumblr share button	Redirect the user to the Tumblr login webpage in the Safari
2	User tap in user name and password and click login button	User log in the Tumblr

Table 24 Exceptional Course of Action (Tumblr Login)

Seq#	Actor's Action	System's Response
1	User clicks Tumblr login button	Unauthenticated app, requires authentication.

Table 25 Exceptional Course of Action (Tumblr Login)

Seq#	Actor's Action	System's Response
1	User tap in user name and password and click login button	Incorrect password or username doesn't exist.

6. Share videos on Tumblr
   Table 27 illustrates the process description of sharing videos on Tumblr. Table 28 demonstrates the course of action for user to share videos on Tumblr. Table 29 shows the exceptional courses of action via sharing videos. The primary reason is that the third-party app is not authenticated on Tumblr.

Table 26 Process Description (Share videos on Tumblr)

Identifier	UC-6: Share videos on Tumblr
Purpose	Share Live Riot Video on Tumblr
Requirements	WC_2799, WC_2511
Development Risks	Tumblr Integration
Pre-conditions	User log in Tumblr
Post-conditions	User shares Live Riot video on Tumblr

Table 27 Typical Course of Action (Share videos on Tumblr)

Seq#	Actor's Action	System's Response
1	User writes description about the video	Format of description is legal
2	User clicks the Tumblr share button	Share success.

Table 28 Exceptional Course of Action (Share videos on Tumblr)

Seq#	Actor's Action	System's Response
1	User writes description about the video	Format of description is legal
2	User clicks the Tumblr share button	Unauthenticated app, requires authentication.

7. Search videos
   Table 30 illustrates the process description of searching videos. Table 31 demonstrates the typical course of action for user to search videos by search criteria like band's genre, location, keywords or band's name.

Table 29 Process Description (Search videos)

Identifier	UC-7: Search videos
Purpose	Find designated videos effectively
Requirements	WC_2564, WC_2509
Development Risks	Tag videos
Pre-conditions	User type in search criteria
Post-conditions	User view videos list related to search criteria

Table 30 Typical Course of Action (Search videos)

Seq#	Actor's Action	System's Response
1	User tap in band's genre or location or keywords or band name	Video list related to search criteria

8. Tag videos
   Table 32 illustrates the process description of tagging videos. Table 33 demonstrates the typical course of action for user to tag videos.

Table 31 Process Description (Tag videos)

Identifier	UC-8: Tag videos
Purpose	Categorize videos for effective search

Requirements	WC_2564
Development Risks	Get music tags from schema.org
Pre-conditions	User has uploaded videos.
Post-conditions	User can view videos by tag

Table 32 Typical Course of Action (Tag videos)

Seq#	Actor's Action	System's Response
1	User select videos categorize them with corresponding tags	Videos has been tagged successfully

9. View top10 videos
   Table 34 illustrates the process description for user to view the top 10 videos. Table 35 demonstrates the typical course of action for user to view top 10 videos.

Table 33 Process Description (View top 10 videos)

Identifier	UC-9: View top 10 videos
Purpose	Gain public awareness of most popular live music
Requirements	WC_2504
Development Risks	The schema to measure the top 10 videos.
Pre-conditions	User has uploaded videos.
Post-conditions	User view top 10 videos

Table 34 Typical Course of Action (View top 10 videos)

Seq#	Actor's Action	System's Response
1	User tap the view top 10 videos sidebar menu	The top 10 videos list.

10. View Timeline videos
    Table 36 illustrates the process description for user to view timeline videos. Table 37 demonstrates the typical course of action for user to view timeline videos.

Table 35 Process Description (View timeline videos)

Identifier	UC-10: View timeline videos
Purpose	User can view high-quality video rendered by Live Riot
Requirements	WC_2504
Development Risks	None
Pre-conditions	User has uploaded videos.
Post-conditions	User view timeline videos

Table 36 Typical Course of Action (View timeline videos)

Seq#	Actor's Action	System's Response
1	User tap the view timeline videos sidebar menu	The timeline video list.

3. NDI/NCS Interoperability Analysis

3.1 Introduction

In this project, Live Riot iOS video app will share video links to social medias such as Twitter, Facebook and Tumblr.

3.1.1 COTS / GOTS / ROTS / Open Source / NCS

Table 37 NDI Product List

NDI/NCS Products	Purposes
CocoTouch	iOS app development
Twitter	Share video links to Twitter
Facebook	Share video links to Facebook
Tumblr	Share video links to Tumblr

3.1.2 Connectors

In this project, we use Twitter API, Faecbook API and Tumblr API in the Live Riot iOS app as connectors to connect to Twitter, Facebook and Tumblr.

3.1.3 Legacy System

The project should work on iOS 7.

3.2 System Structure

Figure 4 illustrates the system structure.

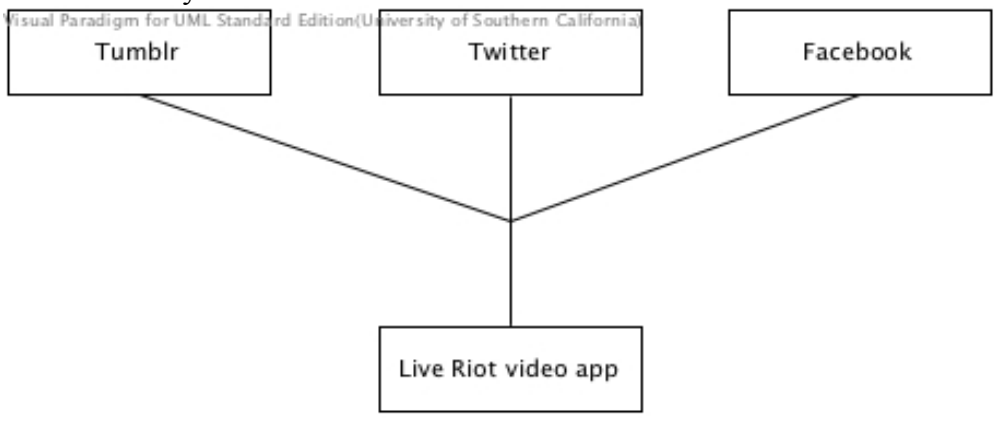

Figure 4: System Structure

3.3 System evaluation

Table 38 NDI Evaluation

NDI	Usages	Comments
CocoTouch	iOS app development	● Easy to use ● Effective User Interface Builder
Facebook	Share video links	● Use Open Graph protocol ● Easy to use Facebook app dashboard to authorize the app used in prototype
Twitter	Share video links	● Use Open Graph protocol ● Easy to use Twitter app dashboard to authorize the app used in prototype ● Fast validation and authorization for twitter photo card
Tumblr	Share video links & embedded video params	● Use iframe to share videos ● Easy to use Tumblr app dashboard to authorize the app used in prototype