Functional Specification  
*System Analytics: 3.0-S-001*

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# Overview

These features allow administrators of Constellation.tv to track and view site usage using a combination of URL beacons, and HTTP referer attributes if beacons are unavailable. Some metrics will be delivered via Google Analytics, and some via Administrative Tools native to the website.

These features will also allow administrators to initiate system actions by way of beacons. Any beacon may be assigned a specific attribute that designates it as a “discount” beacon, a “promotional” beacon, or other actions as needed. In this way, a user who arrives at the site with a specific beacon may be eligible for free merchandise, discounted merchandise, specific offers, advertising, or even feature specific access, such as premium content or enhanced functionality.

These features will gather in-depth and specific metrics about usage in combination with ecommerce and membership events. Metrics will be available to explain overall site visitation, on a per-url basis, as well as overall Membership and Purchasing trends. Users who purchase will be identified by their last obtained “beacon” (if available) to infer any external influences on their browsing behavior. Beacons will not be tracked from more than one inbound source for this purpose.

Lastly, enabling “Social Tracking” in the Google Analytics API will allow us to more closely follow trending from Twitter and Facebook with minimal impact on system processes. For more on this, see: <http://www.socialmediaexaminer.com/how-to-track-tweets-facebook-likes-and-more-with-google-analytics/>

# Scope

This is a sitewide enhancement, for all browsers and users.

# Risk Assesment

This feature set is considered high risk, as all updates are new features and testing will potentially affect every page view, and as such cannot be isolated from other features. However, special note should be taken that beacon tracking is a scalable and non-coupled service, meaning if needed this service can be easily replicated away from the main data sources and application servers to minimize performance costs and to provide future viability.

# Feature List

The following features should be implemented:

1. Click Code Generator ( via ClickTrackAdmin Widget)
2. Click Code Generator ( via Join and Login WIdgets )
3. Click Code Harvester (on inbound links, via Affiilate Service Python)
4. Click Code Processing Tools (Relates Codes to Actions)
   1. Commerce (OrderManager Widget)
   2. Theater Interaction (Theater Widget)
   3. Signup (Join Widget)
5. Click Code Integrator (Embeds in Outbound Links)
   1. Facebook Media Posts (Invite Widget)
   2. Twitter Media Posts (Invite Widget)
   3. Emails (Invite Widget)

This feature set requires the following modifications to the data specification.

1. Data table listing codes (constellation.click\_track)
2. Data table recording code clicks (constellation.click)
3. Data table recording click action relations (constellation.click\_action)

# Code Components

**Symfony**

*Widgets*

1. ClickTrackAdmin (New)
2. Join (Mod)
3. Login (Mod)
4. OrderManager (Mod)
5. Invite (Mod)
6. Theater (Mod)

*Components*

None

*Pages*

1. ClickTrack (Admin)

Helpers

1. Code Helper (New)

**Python**

*Services*

1. Affiliate Tracker

**PERL**

*Services*

None

# Testing Plan

TBD:

1. Users should …:
   1. …
   2. …

# Time and Resource Estimates

The above featureset and will require the following time and resources:

1. Click Code Generator ( via ClickTrackAdmin Widget)**Time: 3 Hours  
   Resources: 1 Developer**
2. Click Code Generator ( via Join and Login WIdgets ) **Time: 1 Hour  
   Resources: 1 Developer**
3. Click Code Harvester   
   **Time: 2 Hours  
   Resources: 1 Developer**
4. Click Code Processing Tools   
   **Time: 1 Hour  
   Resources: 1 Developer**
5. Click Code Integrator   
   **Time: 1 Hours  
   Resources: 1 Developer**

Development Total Time: 8 Hours (1 Days)

Testing Total Time: 2 Hours (1 Day Concurrent)

Updates and Fixes Total Time: 1 Hour (1 Day Concurrent)

Deployment Total Time: 1 Hour (1 Day Concurrent)

**Total Time: 61 Hours (1 Day)**

# Open Issues

The following questions need to be answered prior to final approval of functional specification and development:

1. **Messaging**  
   No design elements for these features, are there UI Implementations needed?
2. **Beacon Ownership**

Should Beacon “Owners” have a separate table for non-user beacons? Where is there an affiliate record for beacons. Do these FK Links need to be separately enumerated?