User Session Guide

Pilot-User Test Session – User Guide, v1.0, 2016/May

The objective of this pilot-user test session is to perform an evaluation of XIS-Analytics (both language and framework) by users that are not familiarized with it, in order to detect bugs or user limitations. The evaluation method involves a dataset in the form of a JSON file, already structured as the input for XIS-Analytics. This dataset is composed with information from Riot Endpoint (https://developer.riotgames.com). The creation and interpretations of the data visualizations using the XIS-Analytics technology by the users, will be used to assess the language usability and to study further improvements to both the language and the framework. The case study application description is as follows:

Case Study - Riot Games League of Legends

Riot Games is a video game publisher and developer, primarily known for the game League of Legends, a real-time strategy video game where players assume the role of a "summoner" and control characters named "champions". This dataset is composed with information from Riot Endpoint (https://developer.riotgames.com) built as JSON file respecting the structure require by XIS-Analytics. The dataset is composed by three main entities: Summoner, SummonerStatus and TopUsedChampions. It has been built with the intention of using the Summoner entity as the fact entity, thus all entities have the summonerID acting as a fact key. The Summoner entity possess the main attributes regarding the player: "summonerName", "summonerID" and "rank" (ranging from 0-15, being 15 the highest). SummonerStatus contains all the information regarding the games of each summoner as a player, having quantified information such as the number of "wins", "kills", "assists" and "minionKills". The TopUsedChampions contains the most used character of the players with the quantified information of games when they have been used, being the attributes: "championName", "games", "wins" and "losses".

Test Conditions:

- Tests are conducted in the laboratory (controlled environment);
- The task must be performed without previous use and learning (for the first time);
- **The user must have a computer running Windows and previously installed Java Runtime Environment (recommended version 7) and Sparx Enterprise Architect (version 7.5, 10 or above);**[1]
- **The user must have python installed (from https://www.python.org/ftp/python/2.7.11/python-2.7.11.msi, having to add "C:\Python27\;C:\Python27\Scripts\" to the environment variables.**

[1] Users that are from IST can have access to free and full licensed versions of Enterprise Architect, available in https://delta.ist.utl.pt/software/ea.php. For other users, there is a 30 day trial version that can be downloaded from http://www.sparxsystems.com/products/ea/trial.html.

- Direct Observation, i.e., while users perform the assigned task, their behavior and performance can be logged;
- Users can think out loud and share ideas if they want;
- The evaluator does not interact with the users until the tests are finished (except in case of blocking errors);
- The session will last 50 minutes (at most)
- The user must fill a survey in the end – available at http://goo.gl/forms/woIOZoa9CN

Instructions:

1. Download the XIS-Analytics EA Plugin installer from here: https://goo.gl/QNmYzj
2. Install the XIS-Analytics EA Plugin. This plugin provides an extension for EA which contains information about the XIS-Analytics profile (language), its diagrams, toolboxes and project template. Functions provided by the XIS-Analytics framework (like validation and generations) are also provided by the plugin.
3. Open EA and create new Project.
4. Upon the prompting of the Model Wizard window, select the "XIS-Analytics Framework" technology, then check "XIS-Analytics Framework model" option and confirm your choice. On the right side, it should appear a Package Diagram with 2 packages (one for each view of XIS-Analytics).
5. Begin the by modeling the Domain Entities View:
    a. Create a XisEntityFact named "Summoner" and give it the following XisEntityAttributes:
        i. "summonerID" with type "int";
        ii. "summonerName" with type "String";
        iii. "rank" with type "int";
    b. Create a XisEntityDimension named "SummonerStatus" and give it the following XisEntityAttributes:
        i. "wins" with type "int";
        ii. "kills" with type "int";
        iii. "assists" with type "int";
        iv. "minionKills" with type "int";
    c. Create a XisEntityDimension named "TopUsedChampions" and give it the following XisEntityAttributes:
        i. "championName" with type "String";
        ii. "games" with type "int";
        iii. "wins" with type "int";
        iv. "losses" with type "int";
    d. Connect the "Summoner" entity to the "SummonerStatus" entity using a XisFactAssociation.
    e. Connect the Summoner" entity to the "TopUsedChampions" entity using a XisFactAssociation.
6. Make sure to save the Model.
7. Continue by modeling the Data Analytics View:
    a. Create a XisActor named "User".

b. Create a XisDataAnalyticsUseCase named “EvaluationTest”; Double-click on it and select the “XIS-Analytics” menu (to the right) to see its tagged values:
    i. Set the taggedvalue “filename” to “RiotGamesJSON.json”;
    ii. Set the tagged value “Chart” to “RadarChart”;
    iii. Set the tagged value “name” to “RiotGames”;
    iv. Set the tagged value “Xattribute” to “Summoner.summonerName”;
    v. Set the tagged value “XattributeOrder” to “NoOrder”;
    vi. Set the tagged value “Yattribute” to “TopUsedChampions.championName”;
    vii. Set the tagged value “Zatribute” to “NULL”;
c. Copy the “Summoner” entity from the Domain Entity View and paste it as “Link”
d. Connect the “User” to the “EvaluationTest” data analytics usecase using a XisActor-DAAssociation;
e. Connect the “EvaluationTest” data analytics usecase entity to the “Summoner” entity using a XisDA-DEAssociation;

8. Make sure to save the Model.
9. Validate the Model:
    a. Click on the “Extension” menu option, select “XIS-Analytics Plugin” and click on the “Validate Model” option.
10. (if the model validation ended with no errors) Apply the Model-to-Code generation, to automatically generate the code for the data visualization, otherwise fix the errors and try again.
    a. To do so, click on the “Extension” menu option, select “XIS-Analytics Plugin” and click on the “Generate Code” option. Choose the path on which you would like the code to be generated to.
    b. Click the “Generate!” button.
11. Check if the target generation folder contains the source code of your visualization.
12. Copy the provided JSON file to the directory of the generated file.
13. (if you have python installed) Open the command prompt and go to the directory of the generated file. When you are there, write the command “python –m SimpleHTTPServer 8888”. After doing so, a python server is generated. Open Google Chrome and go to “localhost:8888”. Open the generated file and enjoy the data visualization! (Needed because of the Anti-XSS filter).
14. After generating the first use case proceed to:
    a. Create a XisDataAnalyticsUseCase named “EvaluationTest2”; Double-click on it and select the “XIS-Analytics” menu (to the right) to see its tagged values:
        i. Set the taggedvalue “filename” to “RiotGamesJSON.json”;
        ii. Set the tagged value “Chart” to “BarChart”;
        iii. Set the tagged value “name” to “RiotGames”;
        iv. Set the tagged value “Xattribute” to “Summoner.summonerName”;
        v. Set the tagged value “XattributeOrder” to “AlphabeticalAZ”;
        vi. Set the tagged value “Yattribute” to “Summoner.rank”;
        vii. Set the tagged value “Zatribute” to “NULL”;
    b. Copy the “Summoner” entity from the Domain Entity View and paste it as “Link”

c. Connect the “User” to the “EvaluationTest2” data analytics usecase using a XisActor-DAAssociation;
d. Connect the “EvaluationTest2” data analytics usecase entity to the “Summoner” entity using a XisDA-DEAssociation;
e. Repeat step 8 to 11.
f. Since the JSON file should already be in the generated folder, repeat step 13.

15. Remember to please remember to fill the survey at http://goo.gl/forms/woIOZoa9CN.