**Review Analysis GUI**

**User Manual**

1. Home

The first screen of the GUI presents the user with two different methods for searching for a review: search filters and rank lists.

* Search Filters

The user is presented with three search filter and can search for reviews by enter a

specific user ID, product ID or date into the corresponding filter.

* Rank Lists

Directly below the search filters are rank lists that the user can also use to search for

reviews. The user can select a rank list by clicking a button labeled either “user ranking,” “product ranking,” or “review ranking.”

“User Ranking”- This list ranks reviewers by the number of reviews written

“Product Ranking”- This list ranks products by the number of reviews received

“Review Ranking”- This is an algorithm generated list that ranks reviews based

on suspiciousness

2. List

The next screen is a list of reviews for the user or product selected. The list consists of the following information about the review:

-User ID

-Product ID

-Username

-Rating

-Text

-Date of Upload

-Helpful Votes

-Votes

The user can use this information in order to choose a particular review to analyze.

3. Temporal Behavior

Once the user selects the review to analyze, the next screen presented shows the temporal behavior of either the author of the review or the product of which the review was written for. The user can choose to change whether to view information about the user or product of the review by using a drop down menu located along the navigation menu.

The user is presented with various graphs and charts in order to gain information about

the user and/or product of the review selected.

* Histograms

The user is presented with a histogram that can be used to analyze the

temporal behavior of the user or product selected. The histogram shows the distribution of reviews over month for a certain user or product. The user can scroll over points on the graph to view the exact count of reviewers each month. This histogram can be used to analyze user/product activity over months as to detect any suspicious spikes or inconsistencies.

The second histogram allows the user to get a more detailed perspective on the user/product activity. The histogram can be altered by using the drop down menu to select a specific time frame of activity. The user can then view the exact date of upload for a specific review by scrolling over the histogram. This allows the user to view the time gap between review upload dates and to see if there are any suspicious upload patterns.

* Table

Below the histograms is a chart that provides the user with more information

about the review and others written by the same user or for the same product. The

user can choose the specific time frame for the reviews to view using the drop

down menu. The user can then view the various information about the reviews

written in the given time frame including App/User ID, rating, text, and

date of upload.

4. Ratings

The next screen available for the user to move to is the rating screen. The user can choose

whether to view rating information on the user or product of the review by using the drop down menu at the top of the screen. The user will then be able to view rating information about the user/product selected via graphs, charts and diagrams.

* Rating Scale

The first diagram the user is presented with is a rating scale that shows the

average ratings given by a certain user or the average rating received by a certain

product. This diagram can be used to see if the rating given in a certain review is significantly higher or lower than that given by a certain user or given to a certain product (i.e. rating on the extreme). Using this information the user can then determine whether the rating given in a certain review is suspicious.

* Histogram

The histogram shows the average rating given by a user or received by a product

each month. This allows the user to visually see if in any given month a user is

giving or a product is receiving a higher or lower than the average rating. This allows the user to see if the rating given in a certain review is suspicious. It also allows the user to see if there is any strange rating patterns for a user or product.

* Pie Chart

The user is then presented with a pie chart that shows the rating distribution for

the user or product of the review. The pie chart is divided into sections that show

the number of reviews given a certain rating. Each section of the pie chart is given

a different that represents a certain rating and a number that shows the count of

reviews given that rating. This graph helps determine if there are any specific

user rating patterns and gives one more information to make an assumption on whether the rating given in a certain review is suspicious or not.

5. Text

The next screen that the user can move to is the text screen. The first thing the user is

presented with is the text of the original review selected. This allows the user to analyze the syntax of the review and to see if there are any significant similarities to other reviews.

The user can then view other reviews based on:

“User”- By clicking this button, the user is presented with a list of reviews

all written by the same author of the original review. This allows the user to see if

there are any distinct similarities or repetitions between the original review and

the other reviews written by the same person.

“Product”- By clicking this button, the user is presented with a list of reviews written for the same product of the original review. This allows the user to compare the original review to other reviews written for the same product and to see if there are any striking similarities and deduce the possibility of group spam collaboration.

“Data”- By clicking this button, the user is presented with a list of reviews from the database that the user can sort (ie: by rating, date, etc.) by clicking the chart headers.

The user can view these lists of reviews and see the percent similarity each review holds

to the original review