Transaction Set Parsed

The transaction set will be sent here to be parsed into data structures that are usable by the algorithm.

Main Flow:

* The user submitted transaction set will be sent here. It will then parse out the data from the text file into data structures that can be used by the algorithm.

Alternate Flow:

* If the user had submitted a malformed transaction set, this will redirect the program to return an error statement instead of continuing.
* If the user submits a transaction set that does not already have a date and time associated with it, the start date of the transaction set will be used with a time of 12:00:00.

Exception Flows:

* In the case of a system crash/power outage, the information will have to be resubmitted in order to be processed.

Sets MinSupport and MinConfidence Level & Submit Transaction Set

The user submits data to the system to be processed.

Main Flow:

* The user will submit the minimum support, minimum confidence level, and a transaction set.
* This will be checked for errors and then sent on to the next step for parsing.

Alternate Flow:

* If the user submits any bad data (empty fields or out of range fields), this will redirect the program to return an error statement instead of continuing.

Exception Flows:

* In the case of a system crash/power outage, the information will have to be resubmitted in order to be processed.

A Priori Algorithm Processed

The error-checked, parsed data is passed here to be processed into rules.

Main Flow:

* The transaction set will be processed into potential rules which will then have their calculated confidence and support levels compared against the minimums to see if they will be created as a rule to be sent to the database.

Alternate Flow:

* There is a chance that the data submitted will not lead to any rules being added to a rule set, leading to an empty rule set.

Exception Flows:

* In the case of a system crash/power outage, the information will have to be resubmitted in order to be processed.

Rule Set Created

The rules made from the algorithm are passed here to be combined into a rule set.

Main Flow:

* The new rules will be passed into here and promptly combined into a new rule set and submitted to the database.

Alternate Flow:

* For the situation where no new rules are created, an empty rule set will still be created and sent to the database.

Exception Flows:

* In the case of a system crash/power outage, the information will have to be resubmitted in order to be processed, unless the new rules have already been committed to the database. You will need to check the database in order to know if this is the case.

Error Statement Returned

Any errors that may have occurred are returned to the user to be fixed before resubmitting.

Main Flow:

* After the information was checked, if there was an error this it will be returned to the user at this point for fixing.

Exception Flows:

* In the case of a system crash/power outage, the information will have to be resubmitted in order to be processed and no error statement will be returned.

Rule Statement Returned

This will let you know what the new rule set is that was created.

Main Flow:

* When the new rule set is created and sent to the database, it will be printed to the console along with its associated confidence and support levels.

Alternate Flow:

* If an empty rule set is created, it will still be printed out as being empty.

Exception Flows:

* In the case of a system crash/power outage, the information will not have to be resubmitted since it will have already been committed to the database. However, the statement will not be printed out console. So, to confirm it, you will need to check the database.