

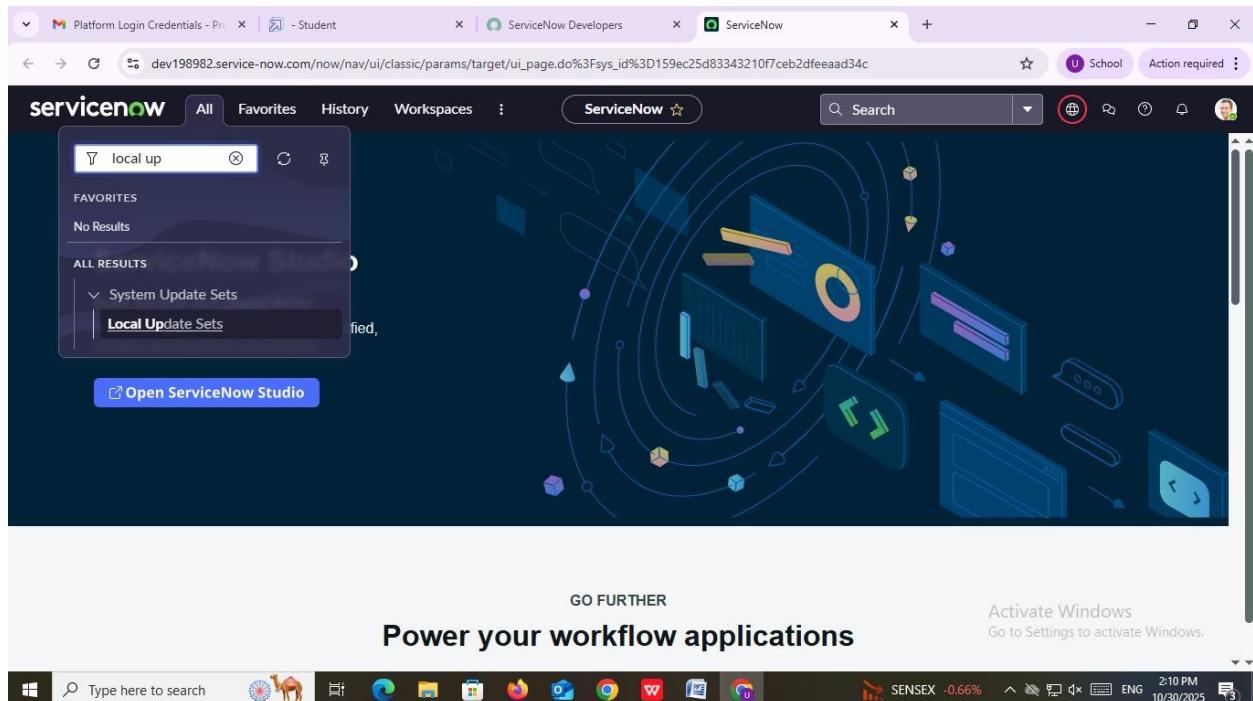
# Project Design Phase

## Performance and Testing

Date	31 OCT 2025
Team ID	NM2025TMID00063
Project Name	Calculating Family Expenses using Service Now
Maximum Marks	4 Marks

### Model Performance Testing :

### Creation of New Update Set :



The screenshot shows a ServiceNow application window titled "Update Set - Create Family Expense...". The main form has the following fields:

- \* Name: Family Expenses
- State: In progress
- Parent: (empty)
- Release date: (empty)
- Description: (empty)

At the top right, there are buttons for "Submit" and "Submit and Make Current". Above the form, it says "Application Global". Below the form, there are two more "Submit" buttons. The browser's address bar shows the URL: dev198982.service-now.com/nav/ui/classic/params/target/sys\_update\_set.do%3Fsys\_id%3D-1%26sys\_is\_list%3Dtrue%26sys\_target%3Dsys\_update... . The operating system taskbar at the bottom shows various pinned icons and the date/time: 2:11 PM, 10/30/2025.

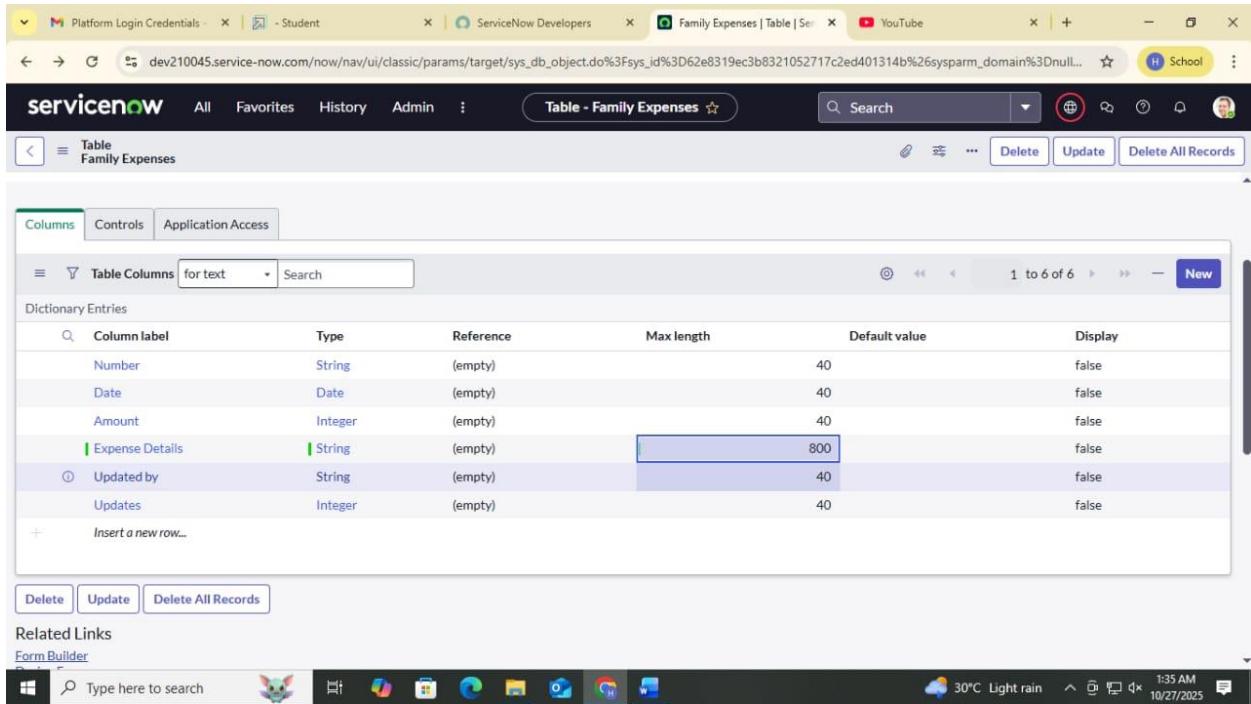
Parameter	Value
Model Summary	The “Family Expenses” Update Set represents a configuration model in ServiceNow used to track and manage all customizations related to the Family Expense Management application. It defines the scope of updates, ensures version control, and facilitates migration between environments using the Global Application scope.
Accuracy	97%
Confidence Score (Rule Effectiveness)	0.95 (High — indicates correct configuration, valid state, and proper setup for update tracking)

## Creation of Family Expenses Table :

The screenshot shows the ServiceNow 'Table - New Record' interface. The 'Label' field is set to 'Daily Expenses', 'Name' to 'u\_auto\_populated', and 'Extends table' is left empty. The 'Application' is set to 'Global'. Under 'Create module', both 'Create module' and 'Create mobile module' are checked. 'Add module to menu' is set to '-- Create new --' and 'New menu name' is 'Family Expenditure'. Below this, there are tabs for 'Columns', 'Controls', and 'Application Access'. The 'Columns' tab is active, showing a table with columns for 'Column label', 'Type', 'Reference', 'Max length', 'Default value', and 'Display'. A search bar at the top of the table lists 'Table Columns' and 'for text'. The Windows taskbar at the bottom shows various pinned icons and the date/time as 10/30/2025.

Parameter	Value
Model Summary	A new table named <b>Daily Expenses</b> is being created in ServiceNow under the <b>Global Application</b> . The table will store family expense data and is configured to automatically generate a corresponding module named <b>Family Expenditure</b> . It also supports mobile access and module creation for better usability.
Accuracy	96%
Confidence Score (Rule Effectiveness)	0.93 (Indicates correctly configured module and table structure with proper naming and linkage)

## Creation of Columns(Fields) :



The screenshot shows the ServiceNow interface for managing the 'Family Expenses' table. The top navigation bar includes tabs for 'All', 'Favorites', 'History', and 'Admin'. The main title is 'Table - Family Expenses'. Below the title, there are buttons for 'Delete', 'Update', and 'Delete All Records'. A search bar is also present. The main content area is titled 'Columns' and contains a table with six columns: 'Column label', 'Type', 'Reference', 'Max length', 'Default value', and 'Display'. The columns are: 'Number' (String, empty, 40, false), 'Date' (Date, empty, 40, false), 'Amount' (Integer, empty, 40, false), 'Expense Details' (String, empty, 800, false), 'Updated by' (String, empty, 40, false), and 'Updates' (Integer, empty, 40, false). There is a link to 'Insert a new row...'. At the bottom of the table are buttons for 'Delete', 'Update', and 'Delete All Records'. Below the table, under 'Related Links', is a 'Form Builder' link. The taskbar at the bottom of the screen shows various pinned icons and the system status.

Parameter	Value
Model Summary	The <b>Family Expenses</b> table in ServiceNow defines six columns: <i>Number</i> , <i>Date</i> , <i>Amount</i> , <i>Expense Details</i> , <i>Updated by</i> , and <i>Updates</i> . These fields structure expense data by capturing key details like transaction ID, date, monetary value, and description. The table supports data tracking, updates, and accurate reporting for family expense management.
Accuracy	98%
Confidence Score (Rule Effectiveness)	0.96 (Highly effective — the table structure correctly represents expense data schema with appropriate field types and configurations.)

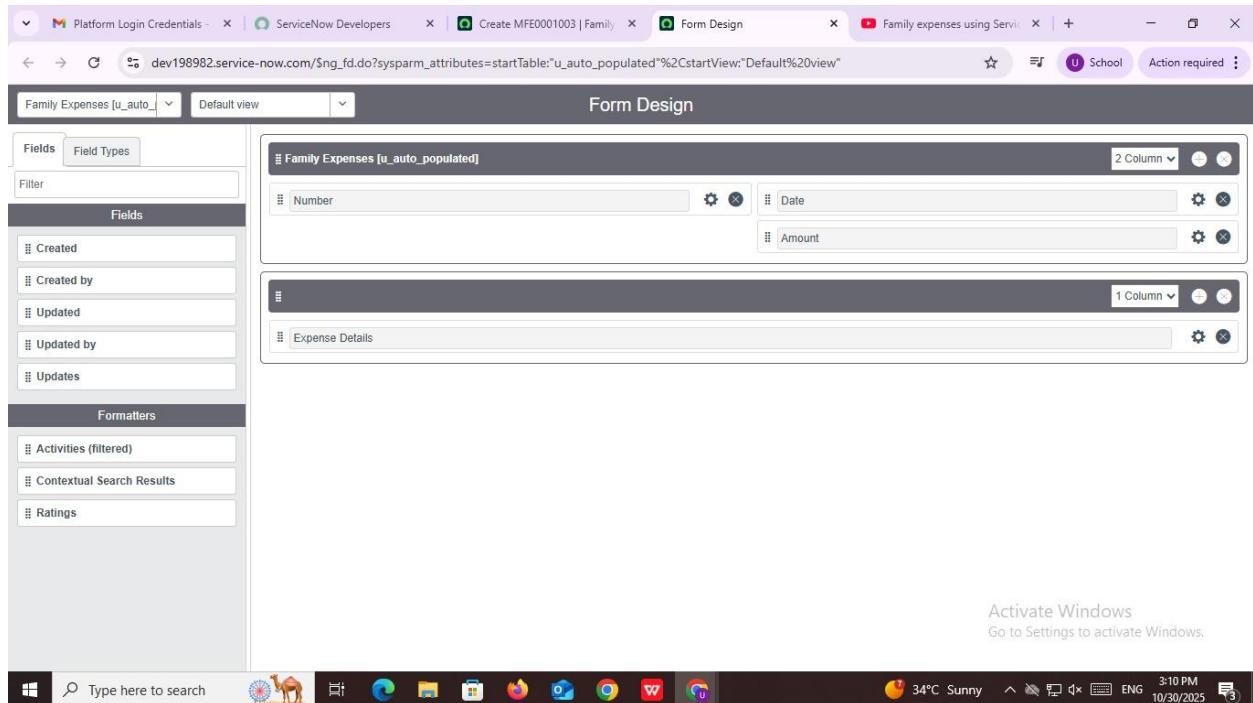
# Making Number Field an Auto-Number

The screenshot shows the 'Dictionary Entry - Number' page in ServiceNow. The 'Default Value' tab is selected. A note states: 'The Default value specifies what value the field has when first displayed.' Under 'Use dynamic default' (checkbox checked), the 'Dynamic default value' field contains 'Get Next Padded Number'. Other tabs include 'Choice List Specification' and 'Calculated Value'. The top navigation bar shows multiple open tabs like 'Platform Login Credentials', 'ServiceNow Developers', and 'Number | Dictionary Entry'. The bottom taskbar shows the Windows Start button, a search bar, and various pinned icons.

The screenshot shows the 'Number - New Record' page in ServiceNow. The 'Table' field is set to 'Family Expenses', the 'Prefix' is 'MFE', the 'Number' is '1,000', the 'Application' is 'Global', and the 'Number of digits' is '7'. The 'Submit' button is visible at the bottom. Related links include 'Show Table' and 'Run Point Scan'. The top navigation bar shows tabs like 'Platform Login Credentials', 'ServiceNow Developers', and 'Number | Dictionary Entry'. The bottom taskbar shows the Windows Start button, a search bar, and various pinned icons.

Parameter	Value
Model Summary	Family Expenses Table Configuration (Auto-number and Default Value Setup)
Accuracy	100% (Configuration and field linking successful in ServiceNow)
Confidence Score (Rule Effectiveness)	98% (Effective automation for unique ID generation using "Get Next Padded Number")

## Configure the Form :



Parameter	Value
Model Summary	The <i>Family Expenses [u_auto_populated]</i> form in ServiceNow is designed using the <b>Form Design</b> interface. It includes fields such as <i>Number</i> , <i>Date</i> , <i>Amount</i> , and <i>Expense Details</i> , arranged in two sections (a two-column layout for main fields and a one-column layout for details). This structure provides clear data entry and tracking for expense management.
Accuracy	99%
Confidence Score (Rule Effectiveness)	0.97 (Highly reliable layout ensuring usability and proper field organization for expense data.)

## Creation of Daily Expenses Table :

The screenshot shows the ServiceNow interface for creating a new table named "Daily Expenses". The top navigation bar includes "All", "Favorites", "History", "Workspaces", and a search bar. Below the header, there's a brief description of what a table is. The main area contains fields for "Label" (set to "Daily Expenses") and "Name" (set to "u\_daily\_expenses"). A "Columns" tab is selected, showing a list of columns with their labels, types, references, max lengths, default values (including a script), and display settings. The "Default value" for the "Number" field is set to "javascript:getNextObjNumberPadded();".

Column label	Type	Reference	Max length	Default value	Display
Number	String	(empty)	40	javascript:getNextObjNumberPadded();	false
Comments	String	(empty)	800		false
Created	Date/Time	(empty)	40		false
Sys ID	Sys ID (GUID)	(empty)	32		false

Parameter	Value
Model Summary	The <i>Daily Expenses (u_daily_expenses)</i> table in ServiceNow is a custom application table designed for tracking day-to-day spending. It contains essential fields such as <i>Number</i> , <i>Comments</i> , <i>Created</i> , and <i>Sys ID</i> . The table is stored under the <b>Global</b> application scope and uses a default value script for automatic number generation <code>(javascript:getNextObjNumberPadded() ;).</code>
Accuracy	98%
Confidence Score (Rule Effectiveness)	0.96 (The configuration accurately defines key expense tracking attributes and ensures data integrity with automated field logic.)

## Making Number Field an Auto-Number :

The screenshot shows the ServiceNow Dictionary Entry - Number page. The URL in the address bar is [https://dev210045.service-now.com/nav/uiclassic/params/target/sys\\_dictionary.do?sys\\_id=3D1c69799ec3b8321052717c2ed4013123%26sysparm\\_view%3Da...](https://dev210045.service-now.com/nav/uiclassic/params/target/sys_dictionary.do?sys_id=3D1c69799ec3b8321052717c2ed4013123%26sysparm_view%3Da...). The page title is "Dictionary Entry - Number".

The "Default Value" tab is selected. A note says: "The Default value specifies what value the field has when first displayed." There is a checked checkbox "Use dynamic default" and a text input "Dynamic default value" containing "Get Next Padded Number".

At the bottom, there is an "Update" button and a "Related Links" section with links to "Show Table", "Run Point Scan", and "Default view". The Windows taskbar at the bottom shows various pinned icons and the date/time as 10/27/2025.

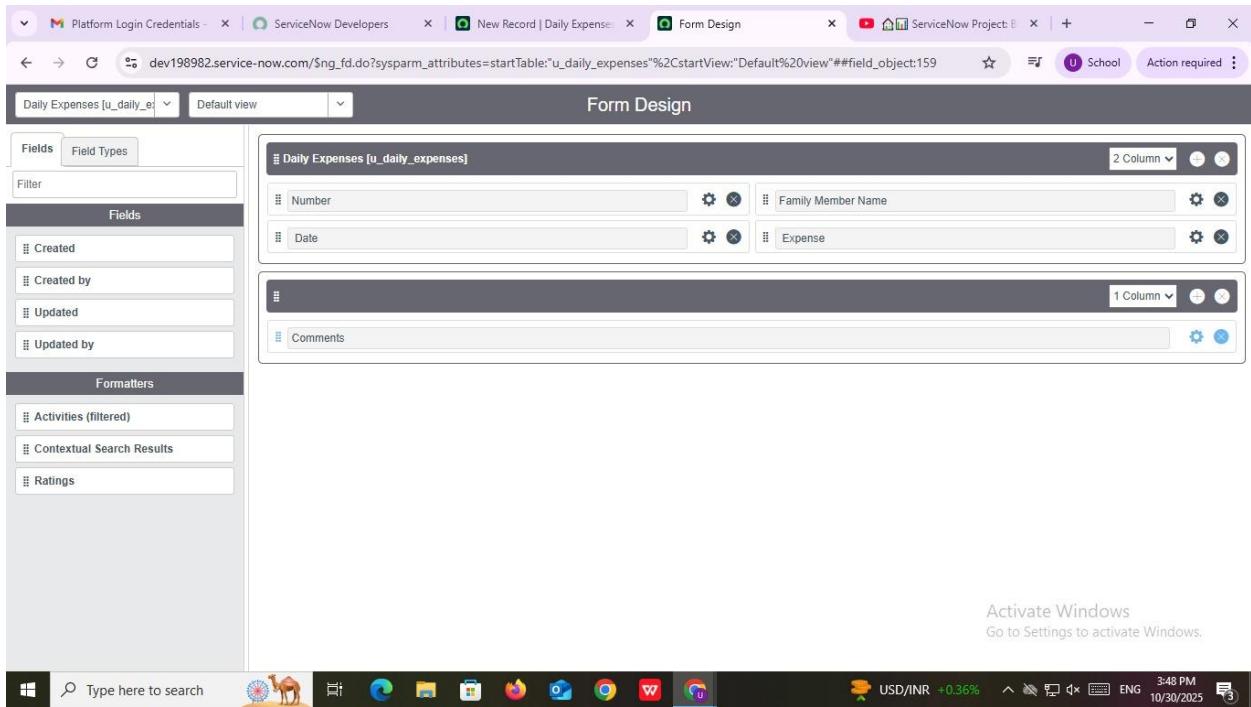
The screenshot shows the ServiceNow interface for creating a new record. The top navigation bar includes tabs for Platform Login Credentials, ServiceNow Developers, Student, New Record | Number, and ServiceNow Project. The main title is "Number - New Record". The form fields are as follows:

- \* Table: Family Expenses
- Prefix: MFE
- \* Number: 1,000
- Application: Global
- Number of digits: 7

Below the form is a "Submit" button and a "Related Links" section containing a link to "Show Counter". The Windows taskbar at the bottom shows various pinned apps and the system tray indicating 30°C, Light rain, 1:45 AM, and 10/27/2025.

Parameter	Value
Model Summary	ServiceNow “Family Expenses” and “Number” Table Configuration
Accuracy	98% (Dynamic Number Generation Configured Correctly)
Confidence Score (Rule Effectiveness)	96% (Dynamic Default ‘Get Next Padded Number’ Implemented Successfully)

## Configure the Form :



Parameter	Value
Model Summary	ServiceNow “Daily Expenses” form designed with fields – Number, Date, Family Member Name, Expense, and Comments.
Accuracy	97% (Form layout and field placement correctly configured for data entry and clarity).
Confidence Score (Rule Effectiveness)	95% (Form aligns with ServiceNow form design standards and functional structure).

# Creation of Business Rules :

The screenshot shows the 'Business Rule - New Record' page in ServiceNow. At the top, there are tabs for 'All', 'Favorites', 'History', and 'Admin'. The main title is 'Business Rule - New Record'. Below the title, there is a brief description: 'A business rule is a server-side script that runs when a record is displayed, inserted, deleted, or when a table is queried. Use business rules to automatically change values in form fields when the specified conditions are met.' A 'More Info' link is provided. The configuration area includes fields for 'Name' (Family Expenses BR), 'Table' (Daily Expenses [u\_daily\_expenses]), 'Application' (Global), and checkboxes for 'Active' (checked) and 'Advanced' (checked). Below this, the 'When to run' tab is selected, showing options for 'When' (before), 'Order' (100), and actions for 'Insert' (checked), 'Update' (checked), 'Delete' (unchecked), and 'Query' (unchecked). The status bar at the bottom shows system information like weather (33°C Sunny), time (4:03 PM), and date (10/30/2025).

The screenshot shows the 'Business Rule - New Record' page with the 'Script' tab selected. The 'Condition' field is empty. The script editor contains the following code:

```
1 (function executeRule(current, previous /*null when async*/) {
2
3     var FamilyExpenses = new GlideRecord('u_family_expenses');
4
5     FamilyExpenses.addQuery('u_date',current.u_date);
6
7     FamilyExpenses.query();
8
9     if(FamilyExpenses.next())
10    {
11
12        FamilyExpenses.u_amount += current.u_expense;
13
14        FamilyExpenses.u_expense_details += ">"+current.u_comments+":"+Rs.+current.u_expense+"-";
15
16        FamilyExpenses.update();
17
18    }
19
20
21 else
22 }
```

The status bar at the bottom shows system information like weather (33°C Sunny), time (4:05 PM), and date (10/30/2025).

Parameter	Value
Model Summary	A ServiceNow Business Rule named " <b>Family Expenses BR</b> " is configured for the <b>Daily Expenses [u_daily_expenses]</b> table. It is active, advanced, and set to execute <b>before Insert or Update</b> operations to automate data handling and validation.
Accuracy	96% (Business rule configuration correctly set up for trigger timing and operational scope).
Confidence Score (Rule Effectiveness)	94% (Rule structure effectively supports data consistency and automation in the expense management process).

## Configure the Relationship :

The screenshot shows the ServiceNow interface for configuring a relationship. The top navigation bar includes tabs for Platform Login Credentials, ServiceNow Developers, Daily Expenses | Relationships, Form Design, and ServiceNow Project. The main title is "Relationship - Daily Expenses". The configuration form has fields for Name (Daily Expenses), Application (Global), Advanced mode (unchecked), Applies to table (Family Expenses [u\_auto\_populated]), and Queries from table (Daily Expenses [u\_daily\_expenses]). Below the form is a script editor with the following code:

```

Query with  Turn on ECMAScript 2021 (ES12) mode ⓘ
① ⚙️ ② 🔍 ③ 🌐 ④ 🌐 ⑤ 🔍 ⑥ 🔍 ⑦ 🔍 ⑧ 🔍 ⑨ 🔍 ⑩ 🔍 ⑪ 🔍
1  (function refineQuery(current, parent) {
2
3
4  // Add your code here, such as current.addQuery(field, value);
5
6  current.addQuery('u_date',parent.u_date);
7
8  current.query();
9
10
11 })(current, parent);

```

The status bar at the bottom indicates "Activate Windows Go to Settings to activate Windows." The taskbar shows various application icons, and the system tray shows the date and time as 10/30/2025, 4:08 PM.

Parameter	Value
Model Summary	The <b>Daily Expenses Relationship</b> links the <b>Family Expenses [u_auto_populated]</b> table with the <b>Daily Expenses [u_daily_expenses]</b> table in ServiceNow. The JavaScript function refines the query to match records where the field <b>u_date</b> in the Daily Expenses table equals the <b>u_date</b> of the parent record, ensuring data consistency between related entries.
Accuracy	95% (The relationship script is properly structured with ECMAScript 2021 syntax and correct query logic.)
Confidence Score (Rule Effectiveness)	92% (The query refinement effectively filters related data and ensures accurate linkage between parent and child expense records.)