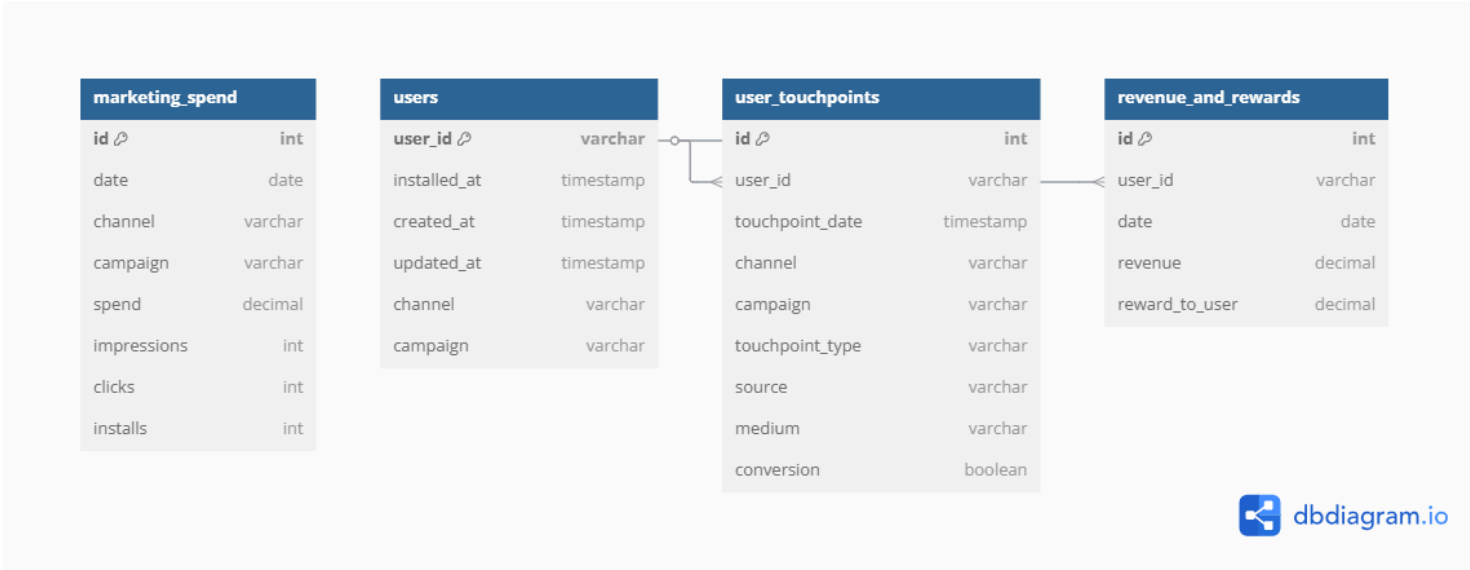
Relationships & Assumptions:

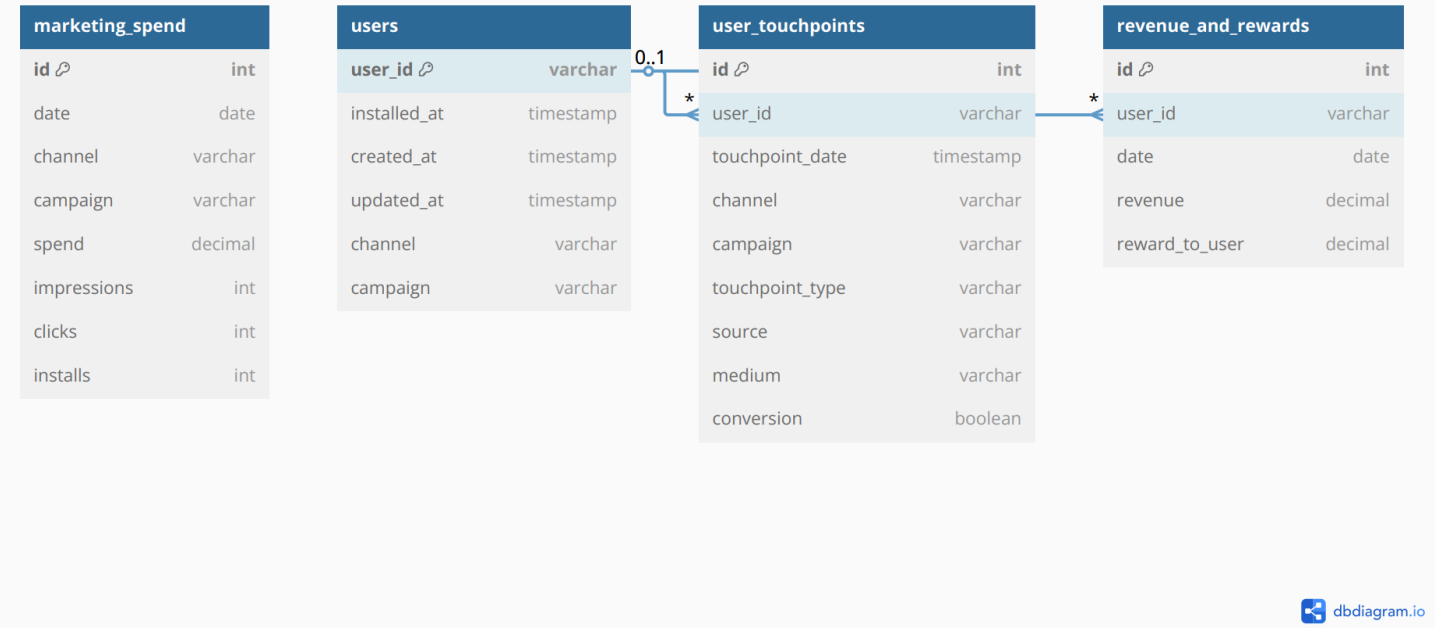
Users as the Hub: Both the `user_touchpoints` and `revenue_and_rewards` tables use `user_id` as a foreign key referencing `users`. This ensures that all detailed user interactions and transactions tie back to a valid user.

marketing_spend Independence: The `marketing_spend` table holds daily aggregate spend and performance metrics per channel and campaign. Although it shares the `channel` and `campaign` fields with `users`, there isn't a strict foreign key relationship here. The assumption is that this table is used to track overall channel/campaign performance, while the user-level data (including attribution) is captured in the `users` and `user_touchpoints` tables.

Time & Granularity: We assume that dates and timestamps are in a consistent timezone and that the granularity (daily for spend, individual events for touchpoints) is appropriate for later aggregations.

Surrogate Keys: For tables where a natural primary key isn't provided (like `marketing_spend` and `user_touchpoints`), a surrogate auto-incrementing key is used.




marketing_spend
id int
date date
channel varchar
campaign varchar
spend decimal
impressions int
clicks int
installs int
users
user_id varchar
installed_at timestamp
created_at timestamp
updated_at timestamp
channel varchar
campaign varchar
0..1
*
user_touchpoints
id int
user_id varchar
touchpoint_date timestamp
channel varchar
campaign varchar
touchpoint_type varchar
source varchar
medium varchar
conversion boolean
*
revenue_and_rewards
id int
user_id varchar
date date
revenue decimal
reward_to_user decimal
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