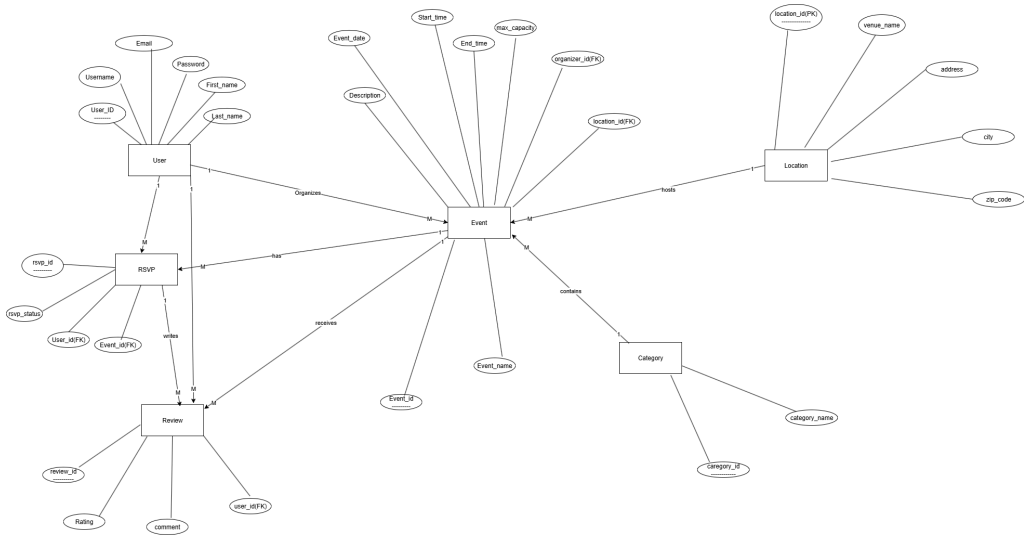
1NF:

To be in 1NF every attribute needs to be atomic, no duplicate rows, fully unique columns, and no order to data.

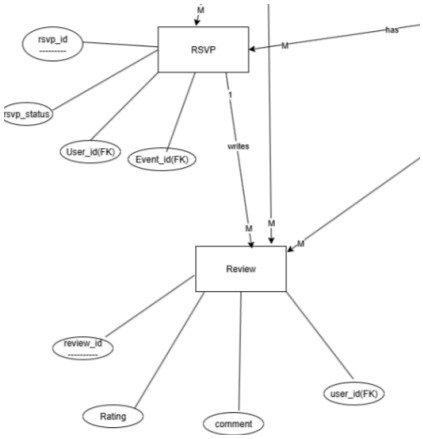
Our database fully satisfies 1NF as all of these are true.



2NF:

1NF and no partial dependencies.

Our database automatically satisfies 2NF as there are no composite primary keys.
In RSVP and Review, we technically could use composite keys of User/Event IDs and it would still pass. This was just our design choice, not really influenced by normalization.

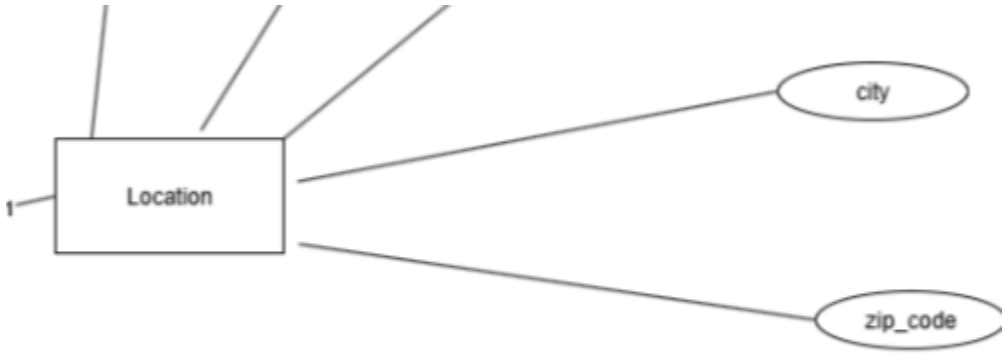


3NF:

2NF and no transitive dependencies.

With an *, our database satisfies 3NF. Every attribute in every entity relies solely on the primary key, and nothing is derived from other non-key attributes.

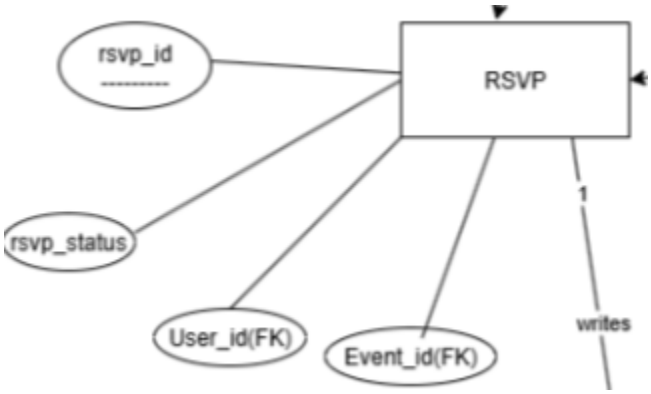
Could make the argument about city/zip depending on each other, however for our scope that's not necessary.



BCNF:

Every FD needs to have $\underline{\alpha}$ as a superkey.

User, Event, Category, and location fully pass.
However, RSVP and Review do not. Originally i thought that there was no issues there but as i looked into it more, it seems using surrogate keys might make them violate. Using RSVP as an example:



In the real world, the dependency would be (user_id + event_id) → rsvp status. Because this isn’t a superkey this isn't BCNF. The same problem is found in Review too. This is all the info I

found online (g4g and stack overflow) and tried to get explained through chatgpt (GPT-5), i still believe this is BCNF technically but im not really sure.