```
SELECT date,
round( ( SELECT COUNT(*) FROM user_activity
WHERE activity_date = date AND activity_type IN ('login', 'click',
'purchase') ) / ( SELECT COUNT(DISTINCT user_id) FROM user_activity
WHERE activity_date = date ) * 100, 2 ) AS engagement_rate FROM
user_activity GROUP BY date;
```

Below is the user_activity table:

```
user_id | activity_date | activity_type
------- | ------------- | ----------
1001    | 2023-08-01    | login
1002    | 2023-08-01    | click
1003    | 2023-08-01    | purchase
1001    | 2023-08-02    | login
1002    | 2023-08-02    | click
```

Then, the query will return the following results:

```
date | engagement_rate
------- | --------
2023-08-01 | 66.67%
2023-08-02 | 50.00%
```