

# Why Graphs?

## Case Studies



# Social Media Produces Graphs

Facebook

The image is a screenshot of a Facebook profile page for a user named Amarnath Gupta. The page layout includes a top navigation bar with the Facebook logo, the user's name, and search and navigation icons. Below this is a large cover photo of a group of people. To the right of the cover photo is a vertical timeline of years from 2015 to 1960. Below the cover photo is a row of tabs: 'সময়ক্রম' (Timeline), 'পরিচিতি' (About), 'বন্ধুত্ব' (Friends), 'চিত্রসমগ্র' (Photos), and 'আরো' (More). Below the tabs is a section for 'আপনি কখন Jadavpur University এ পড়তেন?' (When did you study at Jadavpur University?). Below this is a section for 'একটি সর্বশেষ জীবনী যোগ করুন' (Add a recent bio). Below this is a section for 'Amarnath Gupta Pallab Kirtania Page'র ভিডিও ভাগ করেছেন।' (Amarnath Gupta shared a video of Pallab Kirtania's page). Below this is a video player showing a man playing a flute. To the right of the video player is a vertical list of friends' names and profile pictures. Annotations with arrows point to various elements: 'User' points to the user's name in the top navigation bar; 'Friends' points to the 'বন্ধুত্ব' (Friends) tab; 'Posts' points to the video player; and 'Media Objects' points to the video player.

Amarnath Gupta

User

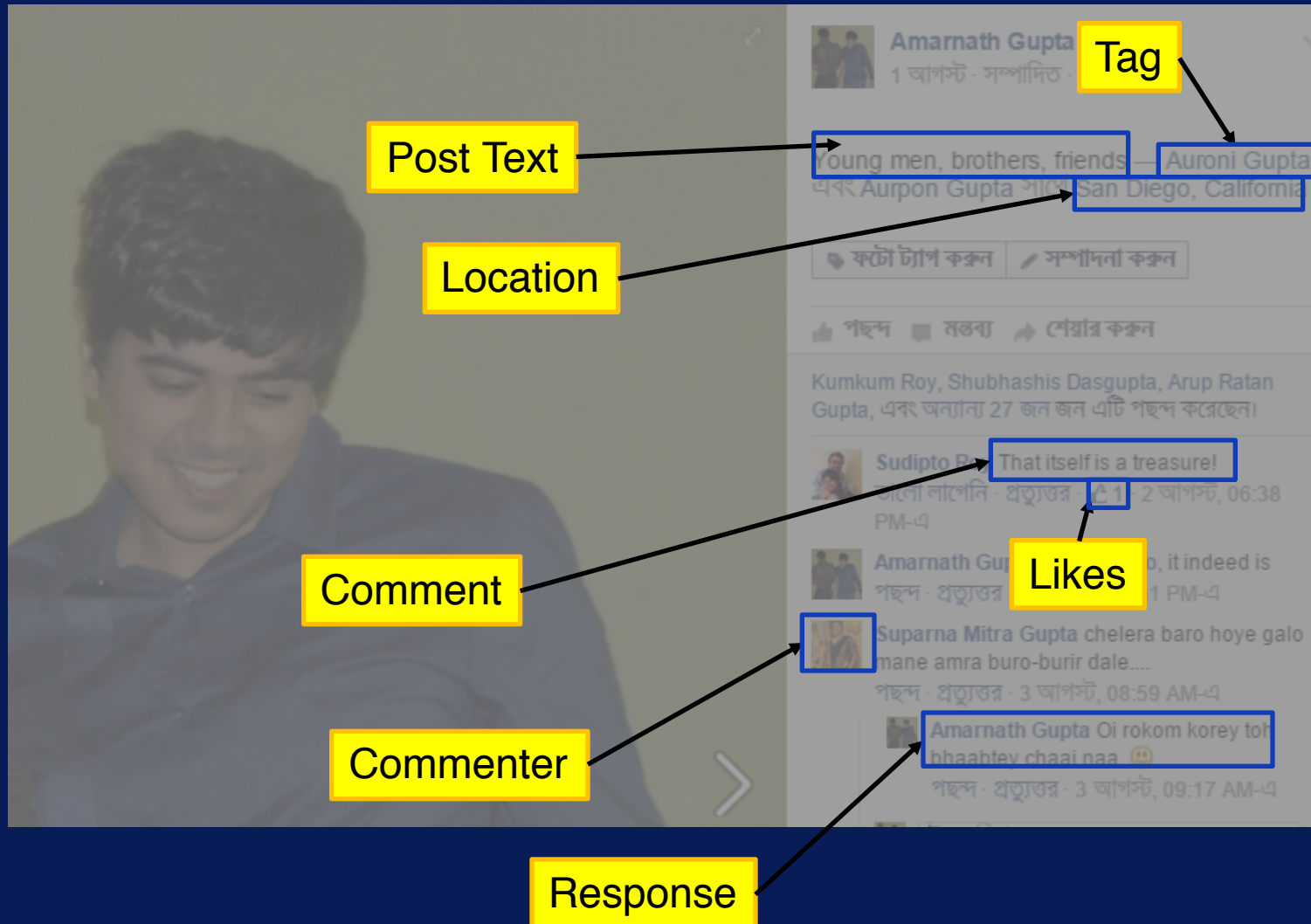
Friends

Posts

Media Objects

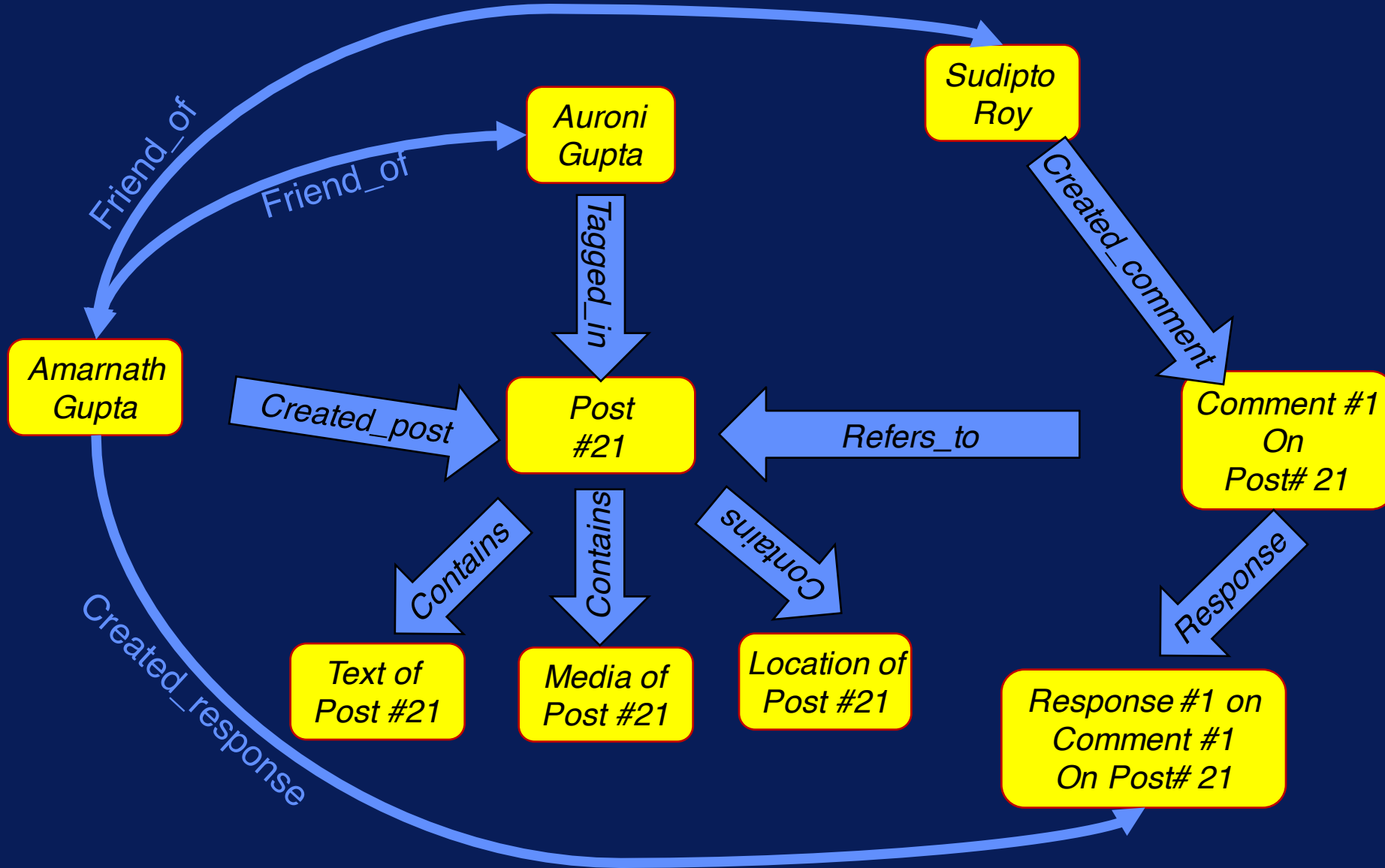
# Can you see the graph?

Facebook





# A Fragment of the Graph



# 4 Use Cases

- **Example 1**
  - Social Media Analytics
- **Example 2**
  - Gene-Phenotype-Disease Networks
- **Example 3**
  - Human Information Network Analytics
- **Example 4**
  - Analysis and Planning for Smart Cities

