

## **GCPD Crime Tracker Narrative**

Wayne Enterprises has just signed a contract with the Gotham City Police Department to build a prototype of a new online crime-tracking system and have hired you to help them deliver this new system. Your job this semester is to construct an initial version of the GCPD online crime-tracking application that will help the department track the crimes committed in the city as well as the criminals who commit them.

### *Looking at Officers and Units*

There are three cores to this project and the first of these are officers. The Gotham City Police Department consists of officers who serve in various capacities in various units. All officers have standard information that we want to track, such as names and Social Security Number, but we also want to track an officer's current rank as well as their current unit. In terms of rank, there are only a limited number of ranks we need to track: Officer, Sergeant, Detective, Detective Sergeant, Lieutenant, Captain, and of course, Commissioner. Also, since some officers retire and others are killed in the line of duty, we need some way to mark their status without necessarily deleting them from the system (and causing referential integrity problems later).

GCPD has some typical units that you would find in most departments, such as Homicide, Narcotics, Forensics, and the like. They also have some non-traditional units, such as the Major Crimes Unit, the Quick Strike Response Team, and the Organized Crime Control Bureau (OCCB). Some of these units are permanent and some are transient, so we will need some way of marking if a unit is active. Regardless of a unit's status, an officer can only be associated with one unit at a time and thankfully, GCPD has said that we don't need a complete history of an officer's unit assignments or his/her rank, just the current values of each.

### *Looking at Investigations and Crimes*

The second of our three cores to this project is investigations. The Gotham City Police Department handles thousands of potential crimes each year, and for each

of these investigations, they give it a title and record the crimes committed (some of which are felonies and others which are just misdemeanors) as well as identify where the crime occurred and an initial description of the event. (Officers can later augment this by adding notes to the investigation that could record additional clues found or new evidence obtained.) It's always important to note the date the investigation was opened and the day in which it was closed. Note, however, that a closed investigation is not necessarily a solved investigation and the GCPD wants to maintain a separate list of closed, unsolved investigations just in case new evidence comes to light that might cause them to re-open an unsolved case. For a similar reason, investigations can be closed, but once opened, an investigation can never be deleted.

One thing Gotham City is notorious for is the presence of their winged vigilante, Batman. The Dark Knight and the GCPD have a love-hate relationship. On the one hand, Batman has been very effective in solving particularly tough crimes and dealing with super-villains who could otherwise wreck havoc on the city. At the same time, Batman operates outside the law and his presence can sometimes make cases harder to successfully prosecute in court and may also attract enhanced beings to match wits with the Caped Crusader. It would be nice if the new system could track all investigations that Batman has been involved with directly.

Of course, more important than Batman's involvement is that of the GCPD officers themselves. For that, we would like a history of which officers were involved with a particular assignment and for how long. Officers can be involved with many cases at once and it is also possible for them to be put on a case, then reassigned to other work, and then later returned to the same investigation at a later date. It is also the norm that most investigations have multiple assignments; solitary assignments to an investigation are possible, but rare for the GCPD.

### *Looking at Criminals and Suspects*

The GCPD maintains a long list of criminal actors that they follow on a regular basis. Some in the system are not convicted felons (because they escape conviction based on legal maneuvering or certified insanity) but because they are

known gang leaders or mob bosses, the GCPD maintains a file on them nonetheless. Still, it would be nice to know which individuals are convicted felons and which are not. Likewise, some super-villains have enhanced powers, such as super strength or the ability to shape shift, while many others do not; knowing who has enhanced powers and how those powers were acquired would be very useful.

Also, when searching for criminals in the system, it is important to note that some individuals go by aliases and in fact are better known for their alias than they are for their real name. For instance, everyone in Gotham City knows “The Joker” but very few people (including officers) would know the Joker’s legal name is Jack Napier. Any search functionality must be able to search by name and by alias.

Of course, a criminal officially becomes a “suspect” when they are officially linked to a particular investigation. A criminal can be (and often is) a suspect in many investigations and likewise an crime is committed by a team of criminals pairing up. Of course, like officer assignments, it is not unusual for a criminal to be a suspect in a case, then dropped as a suspect for a while and then later reassigned as a suspect when new evidence becomes available. Keeping a complete history of the suspects on an investigation is very important to the GCPD.

### *Using the Crime Tracker*

Every officer should be able to log into the system and access appropriate information. Every officer should have a username and password they can use to log into the system and retrieve information they need. Likewise, when the officer logs into the system, they should have access to a custom dashboard that reflects their level and the work they are currently assigned to. (More details on the dashboards for each level will be given later in the semester.)

Officers are allowed to see information about themselves and cannot see other private information about other officers (such as their SSN). They have read-only access to pretty much everything else since sometimes looking at other investigations may spark ideas or identify similarities between cases. They cannot create investigations, but they can add notes to an investigation. (To

maintain integrity in the investigation history, however, once a note is created, cannot be removed or edited.) Officers can add or drop suspects to an investigation and they can add or remove crimes from a case as evidence warrants. They cannot add or remove themselves or other officers from an assigned investigation.

Unit chiefs can create new investigations and they can create or terminate officer assignments to that investigation. Unit chiefs can see a report of their unit: who is in it and how many assignments each officer has, but they cannot add or remove officers from their unit or even edit that officer's information – that is the domain of the commissioner.

Everyone logged into the system can add and edit new criminals to the tracking list. However, only the commissioner can add new officers to the system and only he/she can alter an officer's unit assignment. Likewise, although rarely used, crimes do change, so only the commissioner can add a new crime or make an existing crime inactive.

There may be a home page(s) with information on GCPD, how to report crimes, a list of the different units and how to contact them, and the like. This type of functionality would be public-facing and requires no login. However, none of the core functionality regarding investigations, officers, assignments, and the rest, would be available to the general public or to any vigilante. Indeed, Wayne Enterprises CEO Lucius Fox has promised that the data security will be strong and that there's no way for Batman, whoever he may be, to penetrate this system.