Checkpoint 2 (due date 6/28)

### **Title of the project:** Video Game Sales Database

### **Group members:** Tae Yong Namkoong, Nate Sackett, Hyukjoon Yang

# Revised ER Diagram:

## Revision Details:

We realized that some games have identical game names and release years, and they were only distinguishable by their platform (ex. Call of Duty Black Ops II 2012 had identical name and release year for both XBOX and PS4). “Platform”and “GameName” are now a composite key that identifies the entity Game, and we made “Rank” its own entity with the key “Ranking”. Rank and Game have a one-to-one relationship “Has” (i.e. A game has a ranking), but the value of Ranking is likely to change frequently, whereas the characteristics of Game are not.

# The Relational Schema:

Game (GameName, Platform, Year, Genre)

* (GameName, Platform) is the key

Rank (Ranking)

* Ranking is the primary key

Sales (Region, UnitsSold)

* Region is the primary key

Publisher (PublisherName)

* PublisherName is the primary key

Has (GameName, Ranking)

Sold (GameName, Region)

Made (GameName, Publisher)

# Non-trivial Functional Dependencies:

This schema is in third normal form (3NF).

## Given Functional Dependencies:

GameName, Platform → Year, Genre

Region → UnitsSold

GameName, Platform → Region

GameName, Platform → PublisherName

GameName, Platform → Ranking

Ranking → GameName, Platform, Year, Genre

## Implied Functional Dependencies:

GameName, Platform → (Year, Genre, Ranking, Region, UnitsSold, PublisherName)

Ranking → (GameName, Platform, Year, Genre, Region, UnitsSold, PublisherName)

Region → UnitsSold

# Changes to Technical Details or Project Management:

None.