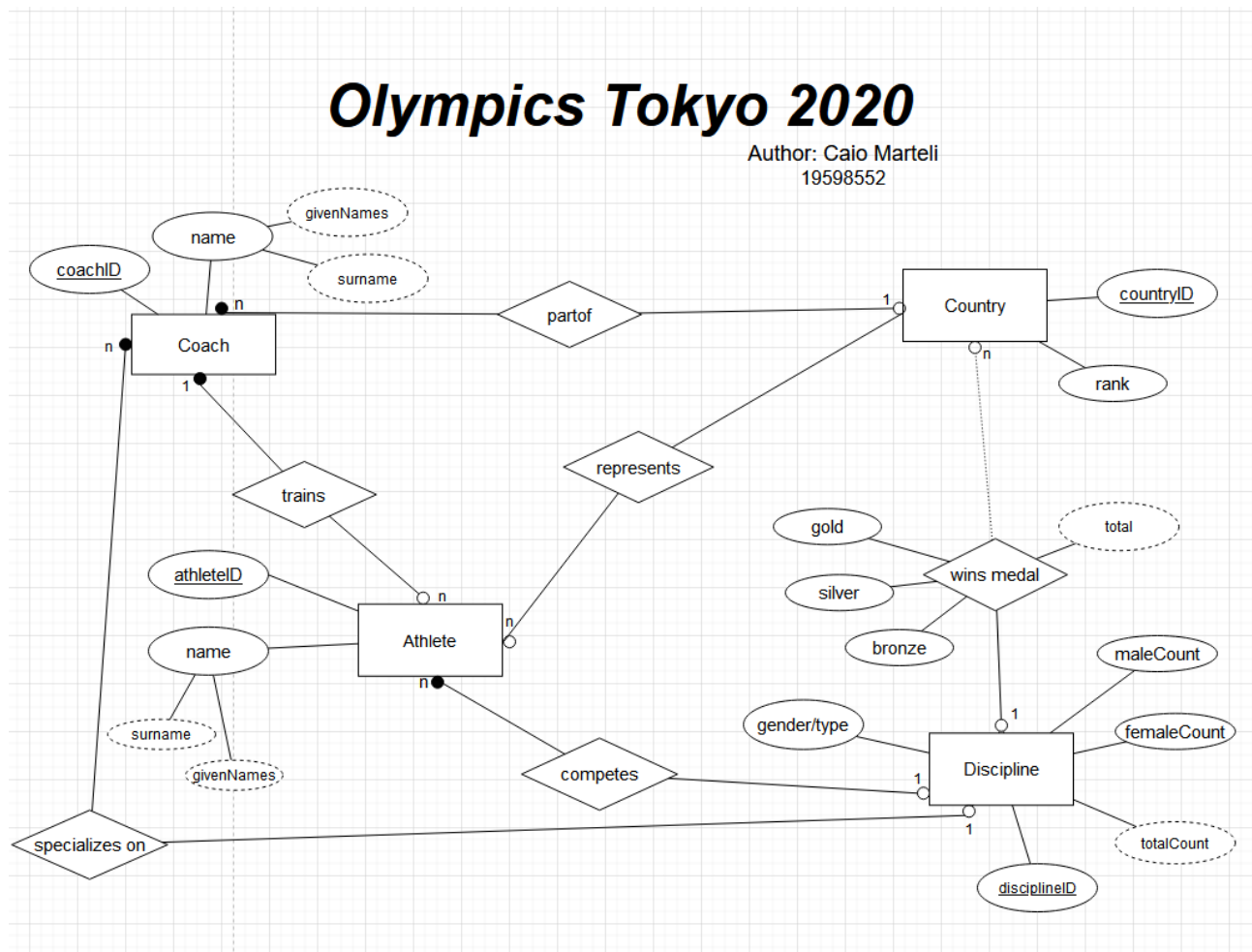# Project Report

Olympic Database

Database Systems Semester 2

Purpose

This database contains information on Athletes, Coaches, Events and Medals at the Tokyo Olympic games.

ERD:

Entitities:

Entity Set	Key	Other Atributes
Country	countryID	rank
Athlete	athleteID	name
Coach	coachID	name
Discipline	disciplineID	maleCount, femaleCount, totalCount

Country:
Team or Nation the athlete represents
Hold Rank information
Athlete:

Relationships:

Relationship Sets	Between Which Sets	Attributes of Relationship set
represents	Country, Athlete	
partof	Country, Coach	
competes	Athlete, Discipline	gender/type
specializes on	Coach, Discipline	
trains	Athlete, Coach	gold, silver, bronze, total
wins medal	Country, Discipline	

represents
 Country - (1 : N) – Athlete
Athletes or coaches can only belong to one national team

part of
 Country - (1 : N) – Coach
Athletes or coaches can only belong to one national team

competes
 Athlete - (1 : N) – Discipline
Athletes can only perform at very highest level in single discipline (a discipline may be an umbrella of events such as "Athletics").

specialises on
 Coach - (1 : N) – Discipline
Coaches can only specialise at very highest level in single discipline (a discipline may be an umbrella of events such as "Athletics").

trains
 Coach - (1 : N) – Athlete
A single coach may train multiple athletes, athletes have one coach assigned to them.

wins
 Athlete - (N : N) – Country
A single athlete can win multiple medals for their country, a country may have multiple medallists.

Relationship Sets	Cardinality Constraints	Participation/ other
represents	1:N	Athletes or coaches can only belong to one national team
partof	1:N	Athletes or coaches can only belong to one national team
competes	1:N	one athlete can only focus in one discipline
trains	1:N	1 coach may train multiple athletes, athletes have 1 coach
specializes on	1:N	coaches specialize on one discipline, where many will coach for it
wins medal	1:N	Countries can not win same medal more than once in single discipline, discipline will award three countries per event

Relational Schema

Country(<u>countryID</u>, *ranking, gold, silver, bronze)*

Athlete(<u>athleteID</u>, surname, givenNames , *coachID, disciplineID, genderOrType, countryID*)

Coach(<u>coachID</u>, surname, givenNames, *disciplineID, countryID*)

Discipline(<u>disciplineID</u>, maleCount, femaleCount)

Data types

TABLE **Country**
      countryID VARCHAR(60) **PK**
#used as main identifier also serves as name of nation. Must be unique.
      ranking SMALLINT
#used as main identifier also serves as name of nation. Must be unique.
      gold SMALLINT
      silver SMALLINT
      bronze SMALLINT

TABLE **Discipline**
      disciplineID VARCHAR(60) **NOT NULL**
#used as main identifier also serves as name of discipline. Must be unique.
      maleCount SMALLINT,
#data is numeric, never negative and never goes above 255.
      femaleCount SMALLINT,
#data is numeric, never negative and never goes above 255.

TABLE **Athlete**
      athleteID CHAR(6) **PK**
#used as main identifier generated for DB. Must be unique.
      surname VARCHAR(30) **NOT NULL**
#derived from dataset. Must not be null.
      givenNames VARCHAR(150)
#derived from dataset. Can be null as not every athlete will have 2 names.
      discipline VARCHAR(60) **FK**
***#Foreign key**. Must not be null.*
      country VARCHAR(60) **FK**
***#Foreign key**. Must not be null.*

TABLE **Coach**
      coachID CHAR(6) **PK**
#used as main identifier generated for DB. Must be unique.
      surname VARCHAR(30) **NOT NULL**
#derived from dataset. Must not be null.
      givenNames VARCHAR(150)
#derived from dataset. Can be null as not every athlete will have 2 names.
      discipline VARCHAR(60) **FK**
***#Foreign key**. Must not be null.*
      country VARCHAR(60) **FK**
***#Foreign key**. Must not be null.*