Final Schema Change

Prepared for: INFS7901 Assignment 3

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1. **Use triggers to implement constrains**

* Semantic constrains such as value of age and seat capacity should be defined when tables (Athletes, Referee, Venue, Coordinator, WorksForStaff, Employee and Volunteer) were created. However, we found that CHECK and ASSERTION constrains were not supported by MySQL 5.5, hence we use triggers to define these value ranges. For example, trigger filter\_age1 checks whether each age value is valid or not:

DELIMITER //

CREATE TRIGGER filter\_age1 BEFORE INSERT ON Athlete

FOR EACH ROW

BEGIN

SET

NEW.Age = IF (NEW.Age < 0 OR NEW.Age > 150, NULL, NEW.Age);

END;//

DELIMITER ;

2. **Seperate one column into two columns**

* Another change is that we separated Name into FirstName and LastName in four tables (Athletes, Referee, Coordinator, WorksForStaff). We made this change for avoiding format inconsistency of the same instance, for example, “JohnSmith” and “John Smith” represent the same full name but would be regarded as two different names when using keyword “John Smith” to execute queries.

3. **Use view to simplify queries**

* User coordinator is able to get information of all events including date and venue in order to check if a venue is fit for use in a particular day. This involves joining tables Event, Venue and HoldIn repeatedly with many nested queries. To simplify these complex queries, we created a view Temp which draws event, date and venue data from three tables above and presents it as a single table. This gives coordinator a personalised view of the database structure and makes the query statement efficiently. The code of view Temp is shown as below:

CREATE VIEW Temp(EventCode, EventName, Is\_end, VenueCode, Date, VenueName, Seating\_capacity) as

SELECT E.EventCode,E.EventName,E.Is\_end,H.VenueCode,H.Date, V.VenueName,V.Seating\_capacity FROM Event E LEFT JOIN HoldIn H ON (E.EventCode = H.EventCode) LEFT JOIN Venue V ON (H.VenueCode = V.VenueCode);