CSC343A3: Conference Management System Report

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1 System Functionality Assumptions

In general, our system is designed to satisfy the system functional requirements described in the assignment. In a given conference the PC Chair will enter details about a conference, review form, will pick other PC Chairs and select reviewers. Authors will then upload papers and PC chairs will assign papers to reviewers according to bids and interests placed by reviewers. Reviewers will then produce reviews that will be used by PC chairs to decide on papers. Finally Authors will be sent a notification letter regarding the decision on their paper.
The assumptions will clarify specific design choices. Some trivial assumptions are omitted.
We will classify the assumptions made into system wide assumptions and assumptions by entity.

System Wide & Very Important Assumptions:
-Assume that any conference participant can have several roles. ie. Authors can be reviewers, or pc chairs can be reviewers. They might have different unique key ids in their respective tables but we can identify the person by other attributes in those tables.
-Assume that when a conference participant creates an account, all relevant information is filled up. So all pc chairs, authors and reviewers registered in the conference have an account.
-We assume there is a "super" PC Chair in the sense that in any conference only the initial PC Chair can choose other PC Chairs and define the attributes in a review form. So not all PC Chairs are equal.
-Although the PC Chair defines the review form to produce reviews we still assume a minimum level of information (paper title, main author, etc.) needs to be included.
-If an attribute has no cardinality, or a relation has no cardinality linked to a relation then it is (1,1).

Conference Participant: (these assumptions apply to PC Chair, Reviewer and Author)
-Can only have several institutes or several telephones. Can have at most one of other attributes.
-Assume conference participants know CIDs so they can provide them in the relations.

Author:
-Assume only the main author submits.
-Assume that every author has some paper being reviewed. So they will receive some letter.

PC Chair:
-Assume PC Chairs coordinate their choices. For example, they cannot select the same reviewer for the same paper. Also they coordinate their review evaluations and letter sending to avoid repetition.
-Assume that PC Chairs decide on papers individually. So there is no group decision.
-Assume the PC Chair arranges for the notification letter to be sent to author.
-Assume that extra attributes the PC Chair defines for a review go in attribute "other" of review form.

Paper:
-Assume topic of a paper is specified in description.
-Assume paper title, co-authors, etc get filled in when abstract of paper submitted.

Conference:
-Can only have several prices or several topics. Can have at most one of other attributes.

Letter:
-Assume 1 letter is sent to each author of a paper. So 1 letter is sent to 1 person only.

COI:
-Assume that the only source of conflicts of interest is that described in the handout. (ie there is no conflict of interest from PC Chair or Reviewer being advisor of Author, etc).
-RevID is used to identify which coauthor is also reviewer.

Review:
-Follows format defined in Review Form. (ie font size, color, etc).

X Institute Holder:
-We introduce notation to make the diagram more readable.
-If a conference participant connects to "x institute holder" and then to institute, then there exists a relation of the form: "conference participant" entity connects to "(conference participant type) institute holder" relationship connects to "institute" entity.
For example: in the E/R diagram we have PC Chair, Author and Reviewer connecting to "X institute holder". This means the following exists: "PC Chair" connects to "ChairInstituteHolder" connects to "Institute", "Author" connects to "AuInstituteHolder" connects to "Institute" and "Reviewer" connects to "RevInstituteHolder" connects to "Institute".

X Telephone Holder:
-Follows similar rules as X institute holder.

X Participation:
-Follows similar rules as X institute holder.

2 ER Diagram

See last page. Please note that we didn't exactly follow the format described in class. We put attributes inside entity boxes because this will improve diagram organization.

3 Relational Schema

PCChair (ChairID, fname, lname, age, address, username, pwd, email)

Reviewer (RevID, fname, lname, age, adress, AvgRating, username, pwd, email)

Author (AuID, fname, lname, age, adress, AvgRating, username, pwd, email)

Review Form (RFID, format, ChairID, CID)

Conference (CID, name, startDate, endDate, description, venue, ExistsDiscount, byInvitation, ExistsAccommodation, gradingScale, ChairID) —-Super PC Chair who defines the conference

TopicHolder (TID, CID)

PriceHolder (CID, price)

SelectChair (selectedID, selectorID, CID) Note: selectedID and selectorID are both subsets of ChairID

SelectRev (ChairID, RevID, CID)

Assign (ChairID, RevID, RPID, CID)

Institute (InID, address, name)
ChairInstituteHolder (ChairID, InID)
AuInstituteHolder (AuID, InID)
RevInstituteHolder (RevID, InID)

ChairParticipation (ChairID, CID)
AuParticipation (AuID, CID)
RevParticipation (RevID, CID)

Telephone (number)
ChairTelephoneHolder (ChairID, number)
AuTelephoneHolder (AuID, number)
RevTelephoneHolder (RevID, number)

Paper (RPID, title, AvgRating, description, PublicationYear, LinkToFullVer, LinkToCameraReady)

Decide (ChairID, RPID, CID)

SendLetter (RPID, CID, AuID, ChairID, accepted)

Review (RevID, RPID, CID, rating, comment, other)

Bid (RevID, RPID, CID)

Interest (RevID, RPID, CID)

AreasOfExpertise (AID, area)
ExpertiseHolder (RevID, AID)
AuthorHolder (AuID, RPID)

COI (RevID, RPID, CID)

Submit (AuID, RPID, CID)

ReportCOI (AuID, RPID, CID, RevID, details)

Topics (TID, topic)

Price (price)

4 Definition of Schema by DDL

1. CREATE TABLE PCChair (chairID INTEGER PRIMARY KEY, fname VARCHAR(20) NOT NULL, lname VARCHAR(20) NOT NULL, age INTEGER NOT NULL, address VARCHAR(200) NOT NULL, username VARCHAR(20) NOT NULL, pwd VARCHAR(20) NOT NULL, email VARCHAR(100) NOT NULL);
2. CREATE TABLE Reviewer (revID INTEGER PRIMARY KEY, fname VARCHAR(20) NOT NULL, lname VARCHAR(20) NOT NULL, age INTEGER, address VARCHAR(200), username VARCHAR(20) NOT NULL, pwd VARCHAR(20) NOT NULL, email VARCHAR(100) NOT NULL);
3. CREATE TABLE Author (auID INTEGER PRIMARY KEY, fname VARCHAR(20) NOT NULL, lname VARCHAR(20) NOT NULL, age INTEGER NOT NULL, address VARCHAR(200) NOT NULL, username VARCHAR(20) NOT NULL, pwd VARCHAR(20) NOT NULL, email VARCHAR(100) NOT

NULL);

4. CREATE TABLE Conference (cid INTEGER PRIMARY KEY, name VARCHAR(20) NOT NULL, chairID INTEGER REFERENCES PCChair(chairID), startDate DATE NOT NULL, endDate DATE NOT NULL, venue VARCHAR(200) NOT NULL, description VARCHAR(500) NOT NULL, ExistsDiscount BOOLEAN NOT NULL, byInvitation BOOLEAN NOT NULL, ExistsAccommodation BOOLEAN NOT NULL, gradingScale VARCHAR(50));

5. CREATE TABLE Paper (rpid INTEGER PRIMARY KEY, title VARCHAR(50) NOT NULL, avgRating DOUBLE PRECISION NOT NULL, description VARCHAR(500) NOT NULL, publicationYear INTEGER NOT NULL, linktofullver VARCHAR (200) NOT NULL, linktocameraready VARCHAR (200));

6. CREATE TABLE ReviewForm (rfid INTEGER PRIMARY KEY, format VARCHAR (200) NOT NULL, chairID INTEGER REFERENCES PCChair(chairID), cid INTEGER REFERENCES Conference(cid));

7. CREATE TABLE TopicHolder (tid INTEGER, cid INTEGER REFERENCES Conference(cid) , PRIMARY KEY (tid, cid));

8. CREATE TABLE PriceHolder (price INTEGER, cid INTEGER REFERENCES Conference(cid) , PRIMARY KEY (price, cid));

9. CREATE TABLE SelectChair (selectedID INTEGER REFERENCES PCChair(chairID) , selectorID INTEGER REFERENCES PCChair(chairID) , cid INTEGER REFERENCES Conference(cid) , PRIMARY KEY (selectedID, selectorID, cid));

10. CREATE TABLE SelectRev (chairID INTEGER REFERENCES PCChair(chairID) , revID INTEGER REFERENCES Reviewer(revID) , cid INTEGER REFERENCES Conference(cid) , PRIMARY KEY (chairID, revID, cid));

11. CREATE TABLE Assign (chairID INTEGER REFERENCES PCChair(chairID) , revID INTEGER REFERENCES Reviewer(revID) , cid INTEGER REFERENCES Conference(cid) , rpid INTEGER REFERENCES Paper(rpid) , PRIMARY KEY (chairID, revID, cid));

12. CREATE TABLE Institute (inID INTEGER PRIMARY KEY, name VARCHAR (100) NOT NULL, address VARCHAR (200) NOT NULL);

13. CREATE TABLE ChairInstituteHolder (chairID INTEGER REFERENCES PCChair(chairID) , inID INTEGER REFERENCES Institute(inID));

14. CREATE TABLE AuInstituteHolder (auID INTEGER REFERENCES Author(auID) , inID INTEGER REFERENCES Institute(inID));

15. CREATE TABLE RevInstituteHolder (revID INTEGER REFERENCES Reviewer(revID) , inID INTEGER REFERENCES Institute(inID));

16. CREATE TABLE Telephone (number INTEGER PRIMARY KEY);

17. CREATE TABLE ChairTelephoneHolder (chairID INTEGER REFERENCES PCChair(chairID) , number INTEGER REFERENCES Telephone(number));

18. CREATE TABLE AuTelephoneHolder (auID INTEGER REFERENCES Author(auID) , number INTEGER REFERENCES Telephone(number));

19. CREATE TABLE RevTelephoneHolder (revID INTEGER REFERENCES Reviewer(revID) , number INTEGER REFERENCES Telephone(number));

20. CREATE TABLE ChairParticipation (chairID INTEGER REFERENCES PCChair(chairID) , cid INTEGER REFERENCES Conference(cid));

21. CREATE TABLE AuParticipation (auID INTEGER REFERENCES Author(auID) , cid INTEGER REFERENCES Conference(cid));

22. CREATE TABLE RevParticipation (revID INTEGER REFERENCES Reviewer(revID) , cid INTEGER REFERENCES Conference(cid));

23. CREATE TABLE ExpertiseHolder (aid INTEGER, revID INTEGER REFERENCES Reviewer(revID) , PRIMARY KEY (aid, revID));

24. CREATE TABLE AuthorHolder (auID INTEGER REFERENCES Author(auID), rpid INTEGER REFERENCES Paper(rpid), PRIMARY KEY (auID, rpid));

25. CREATE TABLE COI(revid INTEGER REFERENCES Reviewer(REVID), rpid INTEGER REFERENCES Paper(RPID), cid INTEGER REFERENCES Conference(CID), PRIMARY KEY (revid, rpid, cid));

26. CREATE TABLE Submit(auid INTEGER REFERENCES Author(AUID), rpid INTEGER REFERENCES Paper(RPID), cid INTEGER REFERENCES Conference(CID), PRIMARY KEY (auid, rpid, cid));

27. CREATE TABLE ReportCOI(auid INTEGER REFERENCES Author(AUID), rpid INTEGER REFERENCES Paper(RPID), cid INTEGER REFERENCES Conference(CID), revid INTEGER REFERENCES Reviewer(REVID), details VARCHAR(500), PRIMARY KEY (auid, rpid, cid, revid));

28. CREATE TABLE Decide(chairid INTEGER REFERENCES PCChair(ChairID), rpid INTEGER REFERENCES Paper(RPID), cid INTEGER REFERENCES Conference(CID), PRIMARY KEY (chairid, rpid, cid));

29. CREATE TABLE SendLetter(rpid INTEGER REFERENCES Paper(RPID), cid INTEGER REFERENCES Conference(CID), auid INTEGER REFERENCES Author(AUID), chairid INTEGER REFERENCES PCChair(ChairID), accepted BOOLEAN PRIMARY KEY (RPID, CD, AUID));

30. CREATE TABLE Review(revid INTEGER REFERENCES Reviewer(RevId), rpid INTEGER REFERENCES Paper(RPID), cid INTEGER REFERENCES Conference(CID), rating DOUBLE PRECISION, comment VARCHAR(500), other VARCHAR(500), PRIMARY KEY(revid, rpid, cid));

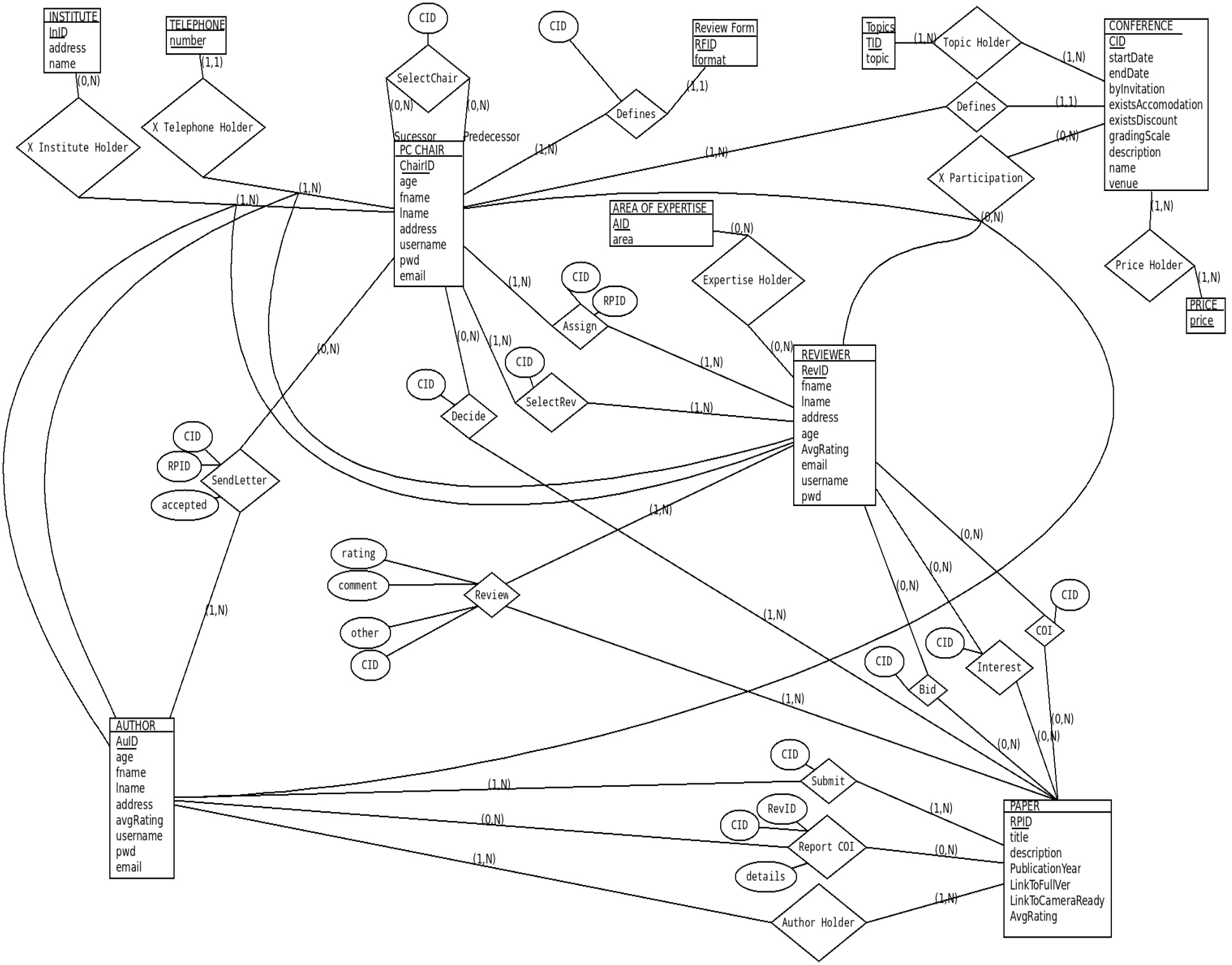
31. CREATE TABLE Bid(revid INTEGER REFERENCES Reviewer(RevId), rpid INTEGER REFERENCES Paper(RPID), cid INTEGER REFERENCES Conference(CID) PRIMARY KEY (revid,rpid, cid));

32. CREATE TABLE Interest(revid INTEGER REFERENCES Reviewer(RevId), rpid INTEGER REFERENCES Paper(RPID), cid INTEGER REFERENCES Conference(CID) PRIMARY KEY (revid,rpid, cid));

33. CREATE TABLE AreasOfExpertise(aid INTEGER PRIMARY KEY, area VARCHAR(20));

34. CREATE TABLE Topics(TID INTEGER PRIMARY KEY, topic VARCHAR(50) NOT NULL);

35. CREATE TABLE Price(price DOUBLE PRECISION PRIMARY KEY);


INSTITUTE
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name
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CID
SelectChair
Sucessor
Predecessor
CID
Review Form
RFID
format
Topics
TID
topic
Topic Holder
CONFERENCE
CID
startDate
endDate
byInvitation
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gradingScale
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X Institute Holder
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PC CHAIR
ChairID
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fname
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AREA OF EXPERTISE
AID
area
Expertise Holder
Price Holder
PRICE
price
Assign
SelectRev
Decide
REVIEWER
RevID
fname
lname
address
age
AvgRating
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pwd
SendLetter
accepted
rating
comment
other
Review
COI
Interest
Bid
AUTHOR
AuID
age
fname
lname
address
avgRating
username
pwd
email
Submit
Report COI
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Author Holder
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RPID
title
description
PublicationYear
LinkToFullVer
LinkToCameraReady
AvgRating