THE UNIVERSITY OF MELBOURNE

SINF90001 Database Systems and Information Modelling
Assignment 1

Literature Review Project

663657 | mmann1
Meghan Mann

523055 | xianyux
Xianyu Xu

Subject Coordinator
Sean Maynard

Software Used
Microsoft Visio 2010

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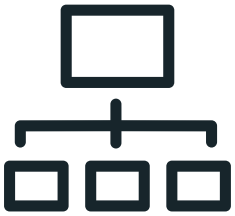
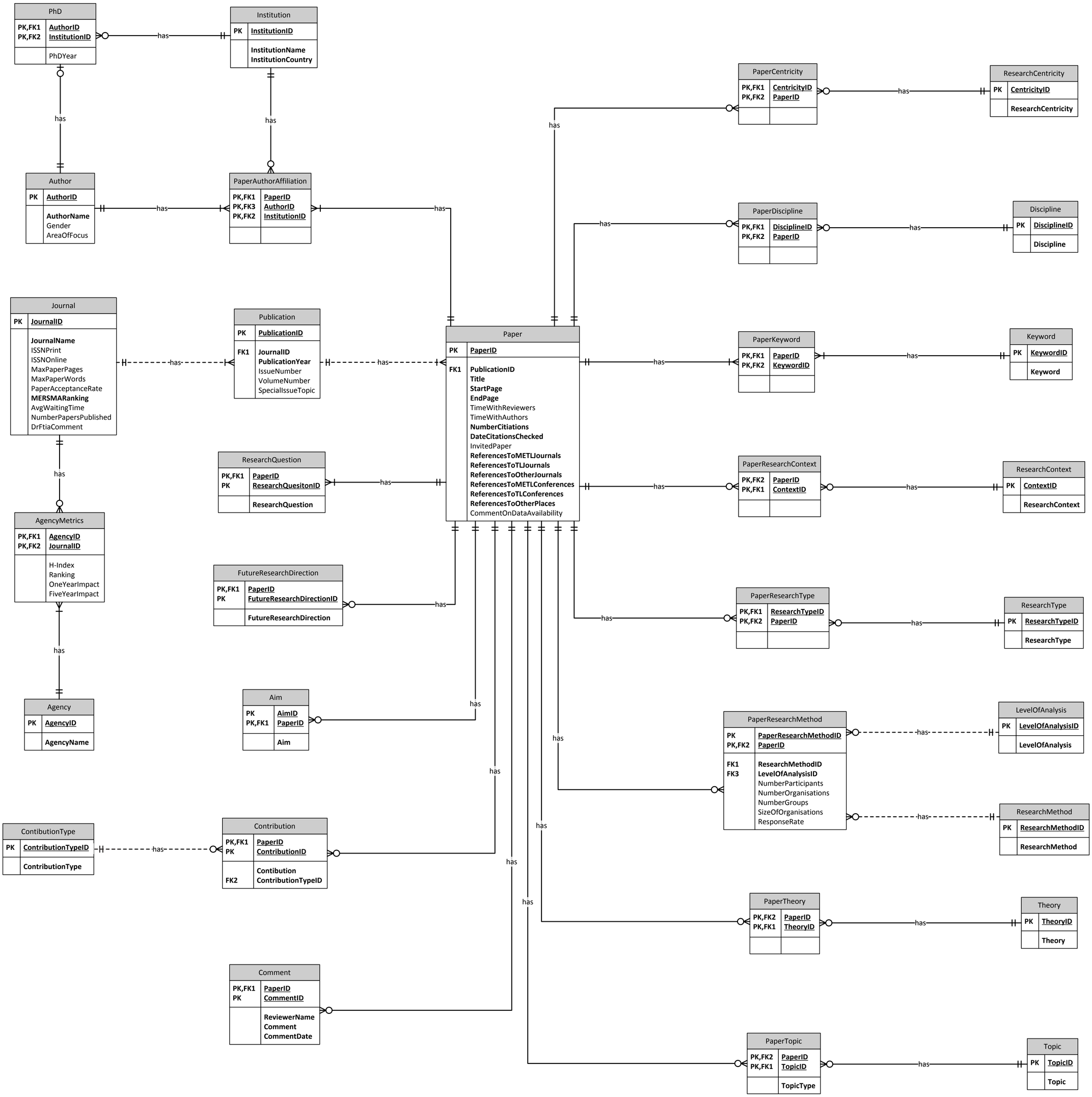


Logical Model

Literature Review Project Logical Model

Meghan Mann | 663657 | mmann1 Xianyu Xu | 523055 | xianyux



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Data Dictionary

Meghan Mann | 663657 | mmann1 **Xianyu Xu** | 523055 | xianyux

Entity	Entity Type	Primary Key	# Attributes
Agency	Independent	AgencyID	2
AgencyMetrics	Dependent	AgencyID, JournalID	6
Aim	Dependent	AimID	3
Author	Independent	AuthorID	4
Comment	Dependent	CommentID, PaperID	5
Contribution	Dependent	ContributionID, PaperID	4
ContributionType	Independent	ContributionTypeID	2
Discipline	Independent	DisciplineID	2
FutureResearchDirection	Dependent	FutureResearchDirectionID, PaperID	3
Institution	Independent	InstitutionID	3
Journal	Independent	JournalID	11
Keyword	Independent	KeywordID	2
LevelOfAnalysis	Independent	LevelOfAnalysisID	2
Paper	Independent	PaperID	17
PaperAuthorAffiliation	Dependent	AuthorID,InstitutionID, PaperID	3
PaperCentricity	Dependent	CentricityID, PaperID	2
PaperDiscipline	Dependent	DisciplineID, PaperID	2
PaperKeyword	Dependent	KeywordID, PaperID	2

Entity	Entity Type	Primary Key	# Attributes
PaperResearchContext	Dependent	PaperID, ResearchContextID	2
PaperResearchMethod	Dependent	PaperID, PaperResearchMethodID	9
PaperResearchType	Dependent	PaperID, ResearchTypeID	2
PaperTheory	Dependent	PaperID, TheoryID	2
PaperTopic	Dependent	PaperID, TopicID	3
PhD	Dependent	AuthorID, InstitutionID	3
Publication	Independent	JournalID, PublicationID	6
ResearchCentricity	Independent	CentricityID	2
ResearchContext	Independent	ContextID	2
ResearchMethod	Independent	ResearchMethodID	2
ResearchQuestion	Dependent	ResearchQuestionID, PaperID	3
ResearchType	Independent	ResearchTypeID	2
Theory	Independent	TheoryID	2
Topic	Independent	TopicID	2

A

Entity 'Agency'

Description

This entity represents an agency that releases metrics about a journal. No information regarding the agency is stored by this entity except the agency's name. One agency can release metrics regarding multiple journals, and multiple agencies can release metrics about the same journal. A set of metrics from each agency can be stored for each journal using the associative entity AgencyMetrics.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	AgencyID	SmallInt	YES	YES	This is the primary key of Agency, and is a unique number designated by the DBMS to each agency which has released metrics regarding a journal in the database.
	AgencyName	Varchar (100)	YES	YES	The name of the agency e.g. 'Giggle'.

Entity 'Agency Metrics'

Description

This is an Associative Entity between Agency and Journal. This attributes of this entity hold the metrics (H-Index, Ranking, OneYearImpactFactor, and FiveYearImpactFactor) released from a certain agency regarding a certain journal. This allows a set of metrics from each agency be stored for each journal.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PFK	AgencyID	SmallInt	YES	NO	A foreign-key, coming from the entity Agency.
PFK	JournalID	SmallInt	YES	NO	A foreign-key, coming from the entity Journal.

	H-Index	SmallInt	NO	NO	The H-Index is a metric released by a reporting agency that measures the productivity and impact of the published scholarly work in a journal.
	Ranking	MediumInt	NO	NO	The ranking of the journal, as reported by a certain agency.
	OneYearImpactFactor	Float	NO	NO	A measure reflecting the average number of citations to articles published in the journal in the last year.
	FiveYearImpactFactor	Float	NO	NO	A measure reflecting the average number of citations to articles published in the journal in the last five years.

Entity 'Aim'

Description

This entity represents an aim of a paper in the database. The primary key of Paper, PaperID, is used a primary foreign-key to link the aim to the specific paper that it relates to. Multiple aims can be related to each paper, but each aim is considered to be unique to its respective paper and can only be related to one paper.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	AimID	SmallInt	YES	YES	This is the primary key of Aim, and is a unique number designated by the DBMS to each aim of a paper in the database.
PFK	PaperID	SmallInt	YES	NO	A foreign-key, coming from the entity Paper. This key relates the aim its respective paper.
	Aim	Varchar (300)	YES	NO	This is an actual aim of a paper. e.g. 'To discover how long dragon eggs incubate for'.

Entity 'Author'

Description

This entity represents an author that contributed to writing a paper. The attributes of this entity store information regarding the author. This includes the author's first name, last name, gender, and the main area of focus of their research.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	AuthorID	SmallInt	YES	YES	This is the primary key of Author, and is a unique number designated by the DBMS to each author who has contributed to a paper in the database.
	AuthorName	Varchar (150)	NO	NO	The name of the author in the format last name, first name (or initial) middle name (or initial). As much information as is know should be included i.e.'Mann, Meghan Francis' or 'Mann, Meghan F.' or 'Mann, M.F.' If any of the above components are unknown, leave out. If an author has multiple first or middle names, they should be included in the order that they were cited in the paper.
	Gender	Char(1)	NO	NO	The gender of the author (input as either M for male or F for female).
	AreaOfFocus	Varchar (200)	NO	NO	The author's main area(s) of research focus e.g. 'Dragons and Flying Monkeys'.

C

Entity 'Comment'

Description

This entity represents a comment made by a reviewer regarding a certain paper. One comment, the review's name, and the date the comment was made are stored as attributes of this entity. A comment can be linked to the paper it is regarding using the foreign-key PaperID, which also makes up part of the primary key, and allows multiple comments to be related to one paper. However, one comment cannot be linked to multiple papers as it is thought to be unique to a certain paper.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	CommentID	SmallInt	YES	YES	This is a part of the primary key of Comment, and is a unique number designated by the DBMS to each comment made by reviewer regarding a paper in the database.

PFK	PaperID	SmallInt	YES	NO	A foreign-key, coming from the entity Paper. This key relates the comment to the paper that the comment is regarding, and acts a portion of the primary key.
	ReviewerName	Varchar (140)	YES	NO	The name of the reviewer who made the comment. i.e. 'Dr. Ftia' or 'Prof Lobez Nustij'.
	CommentDate	Date	YES	NO	The date that the comment was made, input as YEAR(4)-MONTH(2)-DAY(2) i.e. '2014-04-13'.
	Comment	Varchar (1500)	YES	NO	The actual comment regarding the paper.

Entity 'Contribution'

Description

This entity represents a contribution made by a paper. Each contribution can only be related to one paper, but one paper can be related to multiple contributions. An attribute of this entity holds what the contribution was that the paper made. The type of contribution that is made is represented by the foreign key ContributionTypeID.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	ContributionID	SmallInt	YES	YES	The primary key of Contribution, this is a unique number designated by the DMBS to each contribution that a paper has made.
PFK	PaperID	SmallInt	YES	NO	A foreign-key, coming from the entity Paper.
FK	ContributionTypeID	SmallInt	YES	NO	A foreign-key, coming from the entity ContirbutionType.
	Contribution	Varchar (500)	YES	NO	The contribution that the paper made.

Entity 'ContributionType'

Description

This entity represents an area that a paper can make a contribution to e.g. a contribution to 'Field' of 'Practice'. Each contribution will be related to one of these areas.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	ContributionTypeID	SmallInt	YES	YES	This is the primary key of ContributionType, and is a unique number designated by the DBMS to each contribution type that a paper can make.
	ContributionType	Varchar(30)	YES	YES	The area that a paper can contribute to e.g. to 'Field' or 'Practice'.

D

Entity 'Discipline'

Description

This entity represents a discipline that has contributed to a paper in the database. The only information stored in this entity regarding the discipline is its name. Multiple disciplines can contribute to one paper, and one discipline can contribute to multiple papers. A relationship between a certain paper and a certain discipline is represented by the entity PaperDiscipline.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	DisciplineID	SmallInt	YES	YES	This is the primary key of Discipline, and a unique number designated by the DBMS to each discipline contributing to a paper in the database.
	Discipline	Varchar(100)	YES	YES	The name of the discipline.

F

Entity 'FutureRearchDirection'

Description

This entity represents a furture research direction of a paper's research suggested by a paper's author. The future research direction is linked to its respective paper by using the priamry key of Paper, PaperID, as a primary and foreign key. An attribute holds the suggested furture research direction itself, input as one or more sentences.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	FurtureResearchDirectionID	SmallInt	YES	YES	This is the primary key of FutureReseachDirection, and is a unique number designated by the DBMS to every future research direction which relates to a paper in the database.
PFK	PaperID	SmallInt	YES	NO	A foreign-key, coming from the entity Paper. This key relates the research question to its respective paper.
	FutureResearchDirection	Varchar (500)	YES	YES	This is a future research direction suggested by the author of the paper, written as one or more sentences.

I

Entity 'Institution'

Description

This entity describes an institution, such as a university or a business, that a contributing author has been or is currently affiliated with. The attributes of this entity only store the name of the institution and the country in which it is located. An institution can be related to both an author and a paper by the entity PaperAuthorAffiliation. If there are multiple branches of the same institution, each branch will be considered a different institution and receive a unique InstitutionID. The name of each institution branch input in the attribute InstitutionName should be unique enough to reflect the difference between the multiple branches i.e. 'RMIT University – Vietnam' or 'University of California – Santa Barbara'.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	InstitutionID	SmallInt	YES	YES	This is the primary key of Institution, and is a unique number designated to each institution in the database by the DBMS.
	InstitutionName	Varchar(150)	YES	YES	The name of the institution e.g. 'The University of Melbourne'. The name of each institution branch should be unique enough to reflect the difference between the multiple branches i.e. 'RMIT University Vietnam' or 'University of California Santa Barbara'.
	InstitutionCountry	Varchar(100)	YES	NO	The country in which the institution is located. If the institution has many branches, this is the country that the branch is in.

J

Entity 'Journal'

Description

This entity represents a journal that has published a paper that is included in the database. The attributes of this entity store basic information about the journal, such as the name and ISSN number(s), the maximum paper length the journal accepts, statistics regarding the journal, and Dr. Frita's comment about the journal. A journal can have many publications, but each publication can only belong to one journal.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	JournalID	SmallInt	YES	YES	This is the primary key of Journal, and is a unique number designated by the DBMS to each journal that has published a paper included in the database.
	JournalName	Varchar (150)	YES	YES	The name of the journal.

	ISSNPrint	Char(9)	NO	YES	The 8 digit ISSN of the journal in its print format. This is input in the format '1234-5678'.
	ISSNOnline	Char(9)	NO	YES	The 8 digit ISSN of the journal in its online format. This is input in the format '1234-5678'.
	MaxPaperPages	SmallInt	NO	NO	The maximum number of pages that the journal allows a paper to be if it is to be published in a publication of the journal.
	MaxPaperWords	MediumInt	NO	NO	The maximum number of words that the journal allows a paper to be if it is to be published in a publication of the journal.
	PaperAcceptanceRate	Float	NO	NO	The percentage of papers that are published out of all papers submitted to the journal. For example, if it is 14.5%, input as 14.5.
	MERSMARanking	Varchar (10)	YES	NO	A ranking given out by the Middle Earth Research Science and Magic Academy e.g. 'A*', 'A', 'B', 'Unranked'.
	AverageWaitingTime	SmallInt	NO	NO	The average amount of time it takes for a paper to be published in the journal after it has been submitted. This is input as the number of days e.g. '30'.
	NumberPapersPublished	SmallInt	NO	NO	The number of papers published by the journal in the last year. This is meant to be updated periodically.
	DrFtiaComment	Varchar (500)	NO	NO	A comment made by Dr. Ftia regarding the journal.

K

Entity 'Keyword'

Description

This entity represent a keyword found in a paper in the database. The only information stored regarding the keyword is the keyword itself. One paper can have multiple keywords, and the same keyword can be found in multiple papers. A keyword can be related to a paper using the entity PaperKeyword.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	KeywordID	SmallInt	YES	YES	This is the primary key of Keyword, and is a unique number designated by the DBMS to each keyword that is included in a paper in the database.
	Keyword	Varchar(30)	YES	YES	The keyword itself. e.g. 'Sparkles'.

L

Entity 'LevelOfAnalysis'

Description

This entity represents a possible level of analysis of a research method used in a paper. The level of analysis of research method relates to the level that it was conducted at, such as an individual level or a societal level. This only information stored in this entity is the level of analysis itself, and no further information about it. A level of analysis can be related to a research method as well as a paper by using the entity PaperResearchMethod.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	LevelOfAnalysisID	SmallInt	YES	YES	The primary key of LevelOfAnalysis, this is a unique number designated by the DMBS to each level of analysis that can pertain to a paper's research.
	LevelOfAnalysis	Varchar(30)	YES	YES	This is the name of the level of analysis. e.g. 'Individual' or 'Organisational'.

P

Entity 'Paper'

Description

This entity represents a certain publication of a paper. It has many attributes which hold information about the paper including the title, the year it was published, the time it was spent being reviewed and revised, the number of times it has been cited, and the number of references it uses from various sources. If a paper is published multiple times, i.e. in different journals, there will be multiple Paper instances created for the same paper with unique PaperID's.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	PaperID	SmallInt	YES	YES	This is the primary key of PaperID, and is a unique number assigned to each paper in the database by the DBMS.
	Title	Varchar (300)	YES	NO	The title of the paper.
	StartPage	SmallInt	YES	NO	The page of the publication that the paper starts on.
	EndPage	SmallInt	YES	NO	The page of the publication that the paper ends on.
	TimeWithReviewers	SmallInt	NO	NO	The total number of days that the paper spent with reviewers after being received by the authors.
	TimeWithAuthors	SmallInt	NO	NO	The total number of days elapsed while the authors were making changes to the paper, after submitting the paper to a journal and receiving it back having undergone a review process.
	NumberCitations	MediumInt	YES	NO	The number of times that this paper has been cited in other works.
	DateCitationsChecked	Date	YES	NO	This is the date that the number of citations to this particular paper were checked and input to the database in the form YEAR(4)-MONTH(2)-DAY(2) i.e. '2014-04-13'.
	InvitedPaper	Char(3)	NO	NO	Tells is the paper was invited or not. If a paper was invited, YES is written, and if not, NO is written. It is possible to tell if a paper is invited by reading the editorial comment that would accompany the paper.
	ReferncesToMETLJournals	SmallInt	YES	NO	The number of references this paper uses from Middle Earth Theology and Legends journals.
	ReferncesToTLJournals	SmallInt	YES	NO	The number of references this paper uses from Theology and Legends journals.
	ReferncesToOtherJournals	SmallInt	YES	NO	The number of references this paper uses from other journals.

	ReferncesToMETLConferences	SmallInt	YES	NO	The number of references this paper uses from Middle Earth Theology and Legends conferences.
	ReferncesToTLConferences	SmallInt	YES	NO	The number of references this paper uses from Theology and Legends conferences.
	ReferncesToOtherPlaces	SmallInt	YES	NO	The number of references this paper uses from other places.
	CommentOnDataAvailability	VarChar (500)	NO	NO	A comment from the author regarding the availability of data used to write this paper.

Entity 'PaperAuthorAffiliation'

Description

This is a ternary associative entity between the entities Paper, Author, and Institution, and holds no information besides the three respective foreign-keys. This entity was created to allow us to record the one or many authors who have contributed to a certain paper, as well the one or many institution each authors was affiliated with while doing so. To accomplish this, each instance of the entity relates a certain author to a certain institution when contributing to a certain paper. In doing this, we can see all of an author's affiliations, and because Paper has an attribute that contains the year a paper was published, we can discover when a certain professor was affiliated with a certain university. We can also determine all the authors/institutions that contributed to a paper, all the papers an author/institution has been affiliated with.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PFK	PaperID	SmallInt	YES	NO	A foreign-key, coming from the entity Paper.
PFK	AuthorID	SmallInt	YES	NO	A foreign-key, coming from the entity Author.
PFK	InstitutionID	SmallInt	YES	NO	A foreign-key, coming from the entity Institution.

Entity 'PaperCentricity'

Description

This is an associative entity between the entities Paper and ResearchCentricity that relates a specific centricity to a specific paper. By using the primary keys of these two entities (PaperID and CentricityID) to do so, multiple research centricities can be related to each paper, and one research centricity can be related to multiple papers. There are no other attributes of this entity besides the two foreign keys.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PFK	PaperID	SmallInt	YES	NO	A foreign-key, coming from the entity Paper.
PFK	CentricityID	SmallInt	YES	NO	A foreign-key, coming from the entity ResearchCentricity.

Entity 'PaperDiscipline'

Description

This is an associative entity between the entities Paper and Discipline that relates a specific paper to a specific discipline. It. By using the primary keys of these two entities (PaperID and DisciplineID) to do so, multiple disciplines can be related to one paper, and one discipline can be related to multiple papers. There are no other attributes of this entity besides the two foreign keys.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PFK	PaperID	SmallInt	YES	NO	A foreign-key, coming from the entity Paper.
PFK	DisciplineID	SmallInt	YES	NO	A foreign-key, coming from the entity DisciplineID.

Entity 'PaperKeyword'

Description

This is an associative entity between the entities Paper and Keyword that relates a specific paper to a specific keyword. By using the primary keys of these two entities (PaperID and KeywordID) to do so, multiple keywords can be related to one paper, and one keyword can be related to multiple papers. There are no other attributes of this entity besides the two foreign keys.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PFK	PaperID	SmallInt	YES	NO	A foreign-key, coming from the entity Paper.
PFK	KeywordID	SmallInt	YES	NO	A foreign-key, coming from the entity Keyword.

Entity 'PaperResearchContext'

Description

This is an associative entity between the entities Paper and ResearchContext that relates a specific research context to a specific paper. By using the primary keys of these two entities (PaperID and ContextID) to do so, multiple research contexts can be related to each paper, and one research context can be related to multiple papers. There are no other attributes of this entity besides the two foreign keys.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PFK	PaperID	SmallInt	YES	NO	A foreign-key, coming from the entity Paper.
PFK	ContextID	SmallInt	YES	NO	A foreign-key, coming from the entity ResearchContext.

Entity 'PaperResearchMethod'

Description

This entity represents a research method that was used in a paper.

By using the primary keys of the entities Paper, ResearchMethod, and LevelOfAnalysis as foreign keys in this entity, multiple research methods can be related to each paper, each with a different level of analysis. By doing this, we can discover all the research methods and levels of analysis that were used in a paper, as well as their relationship to each other. This entity is necessary because the same research method can be used multiple times in the same paper, each with a corresponding level of analysis and unique attributes. Attributes of this entity allow information regarding the implementation of the research method to be recorded. This includes the number of participants, how many organisations were involved and the size of the organisations, the response rate if surveys were used, and how many groups were involved.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	PaperResearchMethodID	SmallInt	YES	YES	This is a component of the primary key of PaperResearchMethod, and is a unique number designated by the DBMS to each PaperResearchMethod.
FK	ResearchMethodID	SmallInt	YES	NO	A foreign-key, coming from the entity ResearchMethod.
FK	LevelOfAnalysisID	SmallInt	YES	NO	A foreign-key, coming from the entity LevelOfAnalysis.
PFK	PaperID	SmallInt	YES	NO	A foreign-key, coming from the entity Paper.
	NumberParticipants	MediumInt	NO	NO	The number of participants involved in the research.
	NumberOrganisations	SmallInt	NO	NO	The number of organisations involved in the research.
	NumberGroups	SmallInt	NO	NO	The number of groups involved in the research.
	SizeOfOrganisations	Varchar (300)	NO	NO	A comment regarding the size of the organizations studied, if applicable. E.g. "The organizations had 300, 600, and 900 members.'
	ResponseRate	Float	NO	NO	The response rate of the research, if applicable. e.g. '0.1'.

Entity 'PaperResearchType'

Description

This is an associative entity between the entities Paper and ResearchType that relates a specific research type to a specific paper. By using the primary keys of these two entities (PaperID and ResearchTypeID) to do so, multiple research types to be related to one paper, and one research type to be related to multiple papers. There are no other attributes of this entity besides the two foreign keys.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PFK	PaperID	SmallInt	YES	NO	A foreign-key, coming from the entity Paper.
PFK	ResearchTypeID	SmallInt	YES	NO	A foreign-key, coming from the entity ResearchTypeID.

Entity 'PaperTheory'

Description

This is an associative entity between the entities Paper and Theory that relates a specific theory to a specific paper. By using the primary keys of these two entities (PaperID and TheoryID) to do so, multiple theories can be related to one paper, and one theory can be related to multiple papers.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PFK	PaperID	SmallInt	YES	NO	A foreign-key, coming from the entity Paper.
PFK	TheoryID	SmallInt	YES	NO	A foreign-key, coming from the entity Theory.

Entity 'PaperTopic'

Description

This is an associative entity between the entities Paper and Topic that relates a specific topic to a specific paper. By using the primary keys of these two entities (PaperID and TopicID) to do so, multiple topics can be related to one paper, and one topic can be related to multiple papers. Another attribute of this entity stores whether the topic is a sub or main topic of the paper.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PFK	PaperID	SmallInt	YES	NO	A foreign-key, coming from the entity Paper.
PFK	TopicID	SmallInt	YES	NO	A foreign-key, coming from the entity Topic.
	TopicType	Char(4)	YES	NO	Describes whether a topic is a main topic of a paper or a sub topic of a paper. 'Main' is written to denote a main topic, while 'Sub' is used to denote a subtopic.

Entity 'PhD'

Description

This is an associative entity between the entities Author and Institution that relates an author to the institution where they receive their PhD. A PhD can only be related to one institution, but an institution can be related to many PhD's. Also, a PhD can only relate to one author and an author can only relate to one PhD. Furthermore, an attribute of this entity store the year that the author received his or her PhD.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PFK	InstitutionID	SmallInt	YES	NO	A foreign-key, coming from the entity Institution. This foreign key links the information regarding the institution the author received his or her PhD from to the record of the PhD.
PFK	AuthorID	SmallInt	YES	NO	A foreign-key, coming from the entity Author. This foreign key links information regarding an author to the record of his or her PhD.
	PhDYear	Year[4]	NO	NO	The four-digit year that an author received his or her PhD e.g. '1978' .

Entity 'Publication'

Description

This entity represents a publication of a journal where a paper in the database has been published. Each publication is linked its respective journal by using the JournalID as a foreign-key. The attributes of Publication hold information relating specifically to a certain publication of a journal, including the date it was published, its issue number, and its volume number. Some publications may be 'special issues', meaning they are focused around a certain topic. If this is the case, the topic of the special issue is recoded in the attribute SpecialIssueTopic. Each instanceof Paper can only be related to one publication.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	PublicationID	Varchar(30)	YES	YES	This is the primary key of Publication, and is a unique number designated by the DBMS to each journal publication where a paper in the database has been published.
FK	JournalID	SmallInt	YES	NO	A foreign-key, coming from the entity Journal. This relates the publication to its respective journal.
	PublicationYear	Year[4]	YES	NO	The four-digit year that the publication was published. e.g. '2009'.
	IssueNumber	SmallInt	NO	NO	The issue number of the publication.
	VolumeNumber	SmallInt	NO	NO	The volume number of the publication.
	SpecialIssueTopic	Varchar(30)	NO	NO	If the issue is a 'special issue', this attribute stores the topic of the special issue, e.g. 'Unicorns' If the issue is not a special issue, the value of this attribute is NULL.

R

Entity 'ResearchCentricity'

Description

This entity represents a research centricity of a paper, e.g. 'Theology' or 'Legends'. The only information that is stored regarding the research centricity is its name. Multiple papers can have the same research centricity, and one paper can have multiple research centricities. Each research centricity can be related to a paper using the entity PaperResearchCentricity.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	CentricityID	SmallInt	YES	YES	This is the primary key of ResearchCentricity, and is a unique number designated by the DBMS to each different centricity that is present in a paper in the database.
	ResearchCentricity	Varchar(30)	YES	YES	This is the name of the research centricity, e.g. 'Legends'.

Entity 'ResearchContext'

Description

This entity represent a context in which a paper's research can be done. The only information that is stored regarding the research context is its name. One research context can be used in multiple papers, and multiple research contexts can be used in one paper. A research context can be related to a paper using the entity PaperResearchContext.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	ContextID	SmallInt	YES	YES	This is the primary key of ResearchContext, and is a unique number designated by the DBMS to each research context that can contribute to a paper.
	ResearchContext	Varchar(30)	YES	YES	The context of research used in the paper e.g. 'Organisational' or 'Market Place'.

Entity 'ResearchMethod'

Description

This entity represent a research method that can be used in a paper, e.g. a 'Focus Group' or 'Design Science'. The only attribute that is stored regarding the research method is its name. One research method can be used in multiple papers, and multiple research methods can be used in one paper. A research method can be related to a paper as well as its corresponding level of analysis using the entity PaperResearchMethod.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	ResearchMethodID	SmallInt	YES	YES	This is the primary key of ResearchMethod, and is a unique number designated by the DBMS to each research method.
	ResearchMethod	Varchar(100)	YES	YES	The name of the research method.

Entity 'ResearchQuestion'

Description

This entity represents a research question of a paper in the database. The primary key of Paper, PaperID, is used as a primary and foreign-key to link the research question to the specific paper that it relates to. Multiple research questions can be related to each paper, but each research question is considered to be unique to its respective paper and can only be related to one paper.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	ResearchQuestionID	SmallInt	YES	YES	This is the primary key of ResearchQuestion, and is a unique number designated by the DBMS to each research question that was asked in a paper.
PFK	PaperID	SmallInt	YES	NO	A foreign-key, coming from the entity Paper. This key relates the research question to its respective paper.
	ResearchQuestion	Varchar(300)	YES	NO	This is the actual research question of a paper.

Entity 'ResearchType'

Description

This entity represents a research type that can be used in a paper e.g. 'Theory Building' or 'Practice' The only information stored regarding each research type is the name of the research type. One research type can be used in multiple papers, and multiple research types can be used in one paper. A research type can be related to a certain paper using the entity PaperResearchType.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	ResearchTypeID	SmallInt	YES	YES	This is the primary key of ResearchType, and is a unique number assigned by the DBMS to each research type.
	ResearchType	Varchar(50)	YES	YES	The name of the research type e.g. 'Theory Building'.

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Entity 'Theory"

Description

This entity represents a theory that has been used in one or more papers in the database. One paper can use multiple theories, and one theory can be used in multiple papers. The only information that this entity holds is the name of the theory. A theory used in a paper can be related to that paper using the entity PaperTheory.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	TheoryID	SmallInt	YES	YES	This is the primary key of Theory, and is a unique number designated by the DBMS to every theory that was used by a paper in the database.
	Theory	Varchar(100)	YES	YES	This is the name of the theory, e.g. 'Swirly Sparkles Theory'.

Entity 'Topic'

Description

This entity represents a topic which is either a main or sub topic of one or more papers in the database. The only information that this entity holds is the name of the topic. A paper can have multiple topics, and one topic can belong to multiple papers. A topic of a paper can be related to that paper using the entity PaperTopic.

Attributes

Key	Attribute	Data Type	Not Null	Unique	Description
PK	TopicID	SmallInt	YES	YES	This is the primary key of Topic, and is a unique number designated by the DBMS to every topic which relates to a paper in the database.
	Topic	Varchar(50)	YES	YES	This is the name of the topic e.g. 'Dragons'.

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Assumptions

1	Every agency will have a unique name.
2	An agency may release all, a few, or no metrics regarding a journal.
3	If there are multiple branches of the same institution, each branch will be considered a different institution and receive a unique InstitutionID. The name of each institution branch input in the attribute InstitutionName should be unique enough to reflect the difference between the multiple branches i.e. 'RMIT University – Vietnam' or 'University of California – Santa Barbara'.
4	We will not always know if a paper is invited or not.
5	There may or may not be a comment on the availability of data for a paper.
6	We may not know the year that an author received his PhD. An author may or may not have received a PhD, or that information may be unknown.
7	A publication may not always have an issue and a volume number, for instance if it was published online.
8	We may not know the gender of an author.

Literature Review Project Appendix

Old Engineering Building, University of Melbourne
14 April 2014 11:53PM