

Database Design and Management Project Rubric (Pairs or Individual)

Criteria	Beginning	Developing	Accomplished	Exemplary	Total
Database Design (Part 1)					
Database Project Proposal (revised version)	6 points Database project proposal is unclear and/or the description of the application's general domain, data source to populate the database, and how users will interact with it is inadequate. Lacks logical entities and/or relationships and/or sufficient attributes and constraints; unsatisfactory inclusion of revisions based on instructor's feedback.	7 points Database project proposal includes a less than clear or adequate high-level description of the application's general domain, data source to populate the database, and how users will interact with it. Includes logical entities and/or relationships and less than sufficient attributes and constraints. Incorporates few revisions based on instructor's feedback.	8 points Database project proposal includes an adequate high-level description of the application's general domain, data source to populate the database, and how users will interact with it for the most part. Includes essential entities and relationships and sufficient attributes and constraints. Incorporates most revisions based on instructor's feedback.	9-10 points Database project proposal includes a clear high-level description of the application's general domain, data source to populate the database, and how users will interact with it. Includes all necessary entities and relationships (e.g., 7-10 for pairs; 4-7 for individuals) and all attributes and constraints. Highly effective in incorporating all revisions based on instructor's feedback.	/10
E/R Diagram, Attributes and Constraints (revised version)	6 points Poorly designed E/R Diagram for project database that lacks logical entities and/or relationships and/or sufficient attributes and constraints; unsatisfactory inclusion of revisions based on instructor's feedback.	7 points Less than complete/appropriate E/R Diagram for project database with somewhat reasonable entities and relationships and/or less than accurate attributes and/or constraints (e.g., key constraints). Incorporates few revisions based on instructor's feedback.	8 points Adequate and somewhat appropriate E/R Diagram for project database which includes mostly reasonable entities and relationships and accurate attributes and constraints (e.g., key constraints). Incorporates most revisions based on instructor's feedback.	9-10 points Complete and appropriate E/R Diagram for project database with logical entities and relationships and specific and accurate attributes and constraints (e.g., key constraints). Highly effective in incorporating all revisions based on instructor's feedback.	/10
Use of Database Design Tool and SQL Relational Schema Design (revised version)	6 points Inadequate use of MySQL Workbench to create the conceptual design of the database; and/or did not define accurate data types and characteristics, and/or mapped unclear and/or incomplete or missing normalization. Unsatisfactory inclusion of revisions based on instructor's feedback.	7 points Somewhat reasonable use of MySQL Workbench to create the conceptual design of the database and define data types and characteristics, mapping minimal constraints and/or dependencies including some degree of normalization to 3NF. Incorporates some revisions based on instructor's feedback.	8 points Satisfactory use of MySQL Workbench to create the conceptual design of the database and define data types and characteristics, mapping most constraints and/or dependencies including normalization to 3NF. Incorporates most revisions based on instructor's feedback.	9-10 points Highly effective use of MySQL Workbench to create the conceptual design of the database and define all data types and characteristics, mapping all constraints and/or dependencies with normalization to BCNF. Incorporates all revisions based on instructor's feedback.	/10

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Database Design and Management Project Rubric (continued)

Criteria	Beginning	Developing	Accomplished	Exemplary	Total
Database Creation and Management (Part 2)					
MySQL DBMS Tables and Data Loading (revised version)	6 points Unsatisfactory use of MySQL DBMS; and/or implemented improper or unclear project relations, and/or attributes and/or constraints; loaded tables with inappropriate or illogical data. Made incomplete or improper changes to the overall design and the SQL schema based on instructor's feedback.	7 points Less than adequate use of MySQL DBMS; implemented minimal appropriate project relations and/or attributes and/or constraints; loaded tables with sometimes improper data. Made some suggested changes to the overall design and the SQL schema based on instructor's feedback.	8 points Satisfactory use of MySQL DBMS in implementing essential project relations, and/or attributes and/or constraints; loaded tables with adequate and appropriate data for the most part. Made most suggested changes to the overall design and the SQL schema based on instructor's feedback.	9-10 points Highly effective use of MySQL DBMS in implementing project relations, attributes and constraints; loaded tables with accurate and appropriate data. Made all suggested changes to the overall design and the SQL schema based on instructor's feedback.	/10
Database Testing (revised version)	6 points In adequate testing of data resulting in poor data integrity with a high degree of anomalies and/or lacks enough modification of the SQL schema. Unsatisfactory inclusion of revisions based on instructor's feedback.	7 points Minimal amount of testing of data resulting in less than adequate data integrity and/or anomalies; limited modifications of the SQL schema, as needed. Incorporates some revisions based on instructor's feedback.	8 points Demonstrated adequate data integrity through testing data for possible anomalies and modifying the SQL schema for the most part. Incorporates most revisions based on instructor's feedback.	9-10 points Demonstrated superior data integrity through testing all data for anomalies and modifying the SQL schema as appropriate. Incorporates all revisions based on instructor's feedback.	/10
Use of Database Management Tool (revised version)	6 points Unsatisfactory use of MySQL (or other database management tool) to create the database and/or inserted less than 15 tuples of data and/or is inappropriate to the project. Created improper SQL tables in the SQL schema on the SCILSNET MySQL account, including improper constraints and/or lacking additional attribute-based CHECK constraints.	7 points Somewhat reasonable use of MySQL (or other database management tool) to create the database. Inserted 15-20 tuples of data somewhat appropriate to the project. Created basic SQL tables in the SQL schema on the SCILSNET MySQL account, including some constraints and/or adding some additional attribute-based CHECK constraints.	8 points Satisfactory use of MySQL (or other database management tool) to create the database. Inserted 20-30 tuples of data appropriate to the project. Created essential SQL tables in the SQL schema on the SCILSNET MySQL account, including most constraints and/or adding additional attribute-based CHECK constraints.	9-10 points Highly effective use of MySQL (or other database management tool) to create the database. Inserted 30 or more tuples of data appropriate to the project. Created all necessary SQL tables in the SQL schema on the SCILSNET MySQL account, including all constraints and adding any additional attribute-based CHECK constraints.	/10

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Database Design and Management Project Rubric (continued)

Criteria	Beginning	Developing	Accomplished	Exemplary	Total
Database Integration (Part 3)					
Database Views and Queries (revised version)	6 points	7 points	8 points	9-10 points	/10
	Unsatisfactory use of SQL SELECT queries with joins to create less than adequate views of project database tables; and/or completes 5 or fewer views; and/or views are inappropriate to project proposal deliverables. Unsatisfactory inclusion of revisions based on instructor's feedback.	Somewhat reasonable use of SQL SELECT queries with joins to create a minimal amount of complex views of project database tables; and/or completes less than 10 views; and/or the views do not always match what users might query for. Incorporates some revisions based on instructor's feedback.	Satisfactory use of SQL SELECT queries with joins to create 10-15 complex views of project database tables that for the most part match what users might query for. Incorporates most revisions based on instructor's feedback.	Highly effective use of SQL SELECT queries with joins to create 10-15 or more complex views of project database tables that all clearly match what users might query for. Incorporates all revisions based on instructor's feedback.	
Web Interface and Usability (revised version)	6 points	7 points	8 points	9-10 points	/10
	Inadequate coding of HTML forms and PHP to integrate the project database on a web page. Presents an improper and/or incomplete interface, and/or which lacks support of the intended project functionalities and/or database views and/or queries with more than two SQL commands visible to the user. Unsatisfactory inclusion of revisions based on instructor's feedback.	Less than adequate coding of HTML forms and PHP to integrate the project database on a web page. Presents a sometimes improper and/or complicated interface, and/or which supports a minimal amount of the intended project functionalities and/or database views and/or queries with more than one SQL commands visible to the user. Incorporates some revisions based on instructor's feedback.	Adequate coding of HTML forms and PHP to integrate the project database on a web page. Presents a somewhat proper and simple interface, which supports most intended project functionalities and/or database views and/or queries and/or at minimum only one SQL command visible to the user. Incorporates most revisions based on instructor's feedback.	Superior coding of HTML forms and PHP to integrate the project database on a web page. Presents a clear and simple interface, which supports all intended project functionalities and database views and queries with no SQL commands visible to the user. Incorporates all revisions based on instructor's feedback.	
Presentation to Class	6 points	7 points	8 points	9-10 points	/10
	Pair/individual is minimally effective in delivering the oral presentation; communication skills are below average/poor; substantially over/under the time limit (10 mins.); lack of preparation is evident.	Pair/individual is somewhat effective in delivering the oral presentation demonstrating average communication skills; slightly over/under the allotted time limit (10 mins. total; more preparation is needed.	Pair/individual is effective in delivering the oral presentation demonstrating good communication skills; generally close to the time limit (10 mins. total); preparation is evident for the most part.	Oral presentation is highly effective; pair/individual is articulate and clear in delivering their oral presentation demonstrating excellent communication skills in the allotted time (10 mins. total); preparation is strongly evident.	
Other Criteria					
Database Project Reflection	6 points	7 points	8 points	9-10 points	/10
	Conveys inadequate evidence of reflection on own work in response the self-assessment questions posed; and/or lacks examples and/or personal insights. Poor writing style lacking in standard English, clarity, language used, and/or errors in grammar, punctuation, usage, and spelling.	Conveys limited evidence of reflection on own work in response to the self-assessment questions posed; minimal examples and/or personal insights. Average and/or casual writing style that is sometimes unclear and/or with some errors in grammar, punctuation, usage, and spelling.	Conveys evidence of reflection on own work in response to the self-assessment questions posed including examples and/or personal insights. Above average writing style and mostly clear using standard English with little grammar, punctuation, usage, and spelling errors.	Conveys strong evidence of reflection on own work in response to the self-assessment questions posed including examples and strong insights. Well written and clear using standard English, characterized by elements of a strong writing style and basically free from grammar, punctuation, usage, and spelling errors.	
TOTAL POINTS (sum of 10 Criteria)					/100

Note: Students (pairs or individuals) who fail to meet "Beginning" criteria (in given criteria or the overall project) may be graded lower than the possible points for a Beginning level and/or subject to a failing grade.

Rubric by Prof. Mary Mallery and Denise Kreiger, SC&I, Rutgers University, 1/14