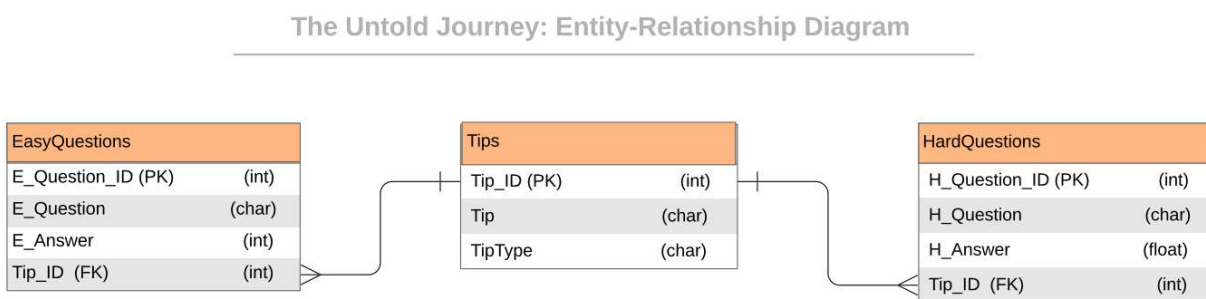Ryan Sleeper

SWDV 691

Week 2

Design: Database

<div align="center">The Untold Journey: Database Design</div>

For my application, I will be using MySQLi to store my data. I chose this type of database primarily because it works well with PHP (which is the server-side language I will be using) and because I am the most familiar with relational databases after taking SWDV 655, Database Principles. My application will be storing three important features that are necessary for the MVP including easy questions, hard questions, and tips. My application will pull questions and tips from the database at each stage the user begins. The game will be set up to give the user two options. Depending on what the user chooses, the game will pull a hard or easy question from the database for the user to solve. If the user gets stuck, a tip will be provided that corresponds with that type of question.

The database will contain three tables, Easy Questions, Hard Questions, and Tips. Please observe the following Entity-Relationship diagram:

The Untold Journey: Entity-Relationship Diagram

EasyQuestions	
E_Question_ID (PK)	(int)
E_Question	(char)
E_Answer	(int)
Tip_ID (FK)	(int)

Tips	
Tip_ID (PK)	(int)
Tip	(char)
TipType	(char)

HardQuestions	
H_Question_ID (PK)	(int)
H_Question	(char)
H_Answer	(float)
Tip_ID (FK)	(int)

There two one-to-many relationships between the three tables. The Tips table has a one-to-many relationship with both the EasyQuestions and HardQuestions tables. This is because a tip may be used more than once in each of the question tables, however there is only one tip for each question. The data

types (ints, floats, and chars), primary keys (PK), and foreign keys (FK) are all identified in the diagram as well.

The purpose for the question tables in this database is for the application to have a location to pull questions to ask the users while playing the game. The tips table will be used to help the user if he/she gets stuck on a question. The relationships between the three tables were created so that tips can be used for both easy and hard questions. Depending on which option the user selects while playing the game, will determine which type of question is pulled from the database. For example, let's say Mikey is playing the adventure game and at Stage 2 of the game he must choose whether he wants to cross the river now (option 1) or walk along the river until there is a dry crossing (option 2). Mikey decides to cross the river now (option 1). The game has programmed in the background that choosing this option will bring up an easy question from the EasyQuestions table. Along with the easy question, the application will also pull the corresponding tip with the question selected.