DATABASE SYSTEMS COURSEWORK
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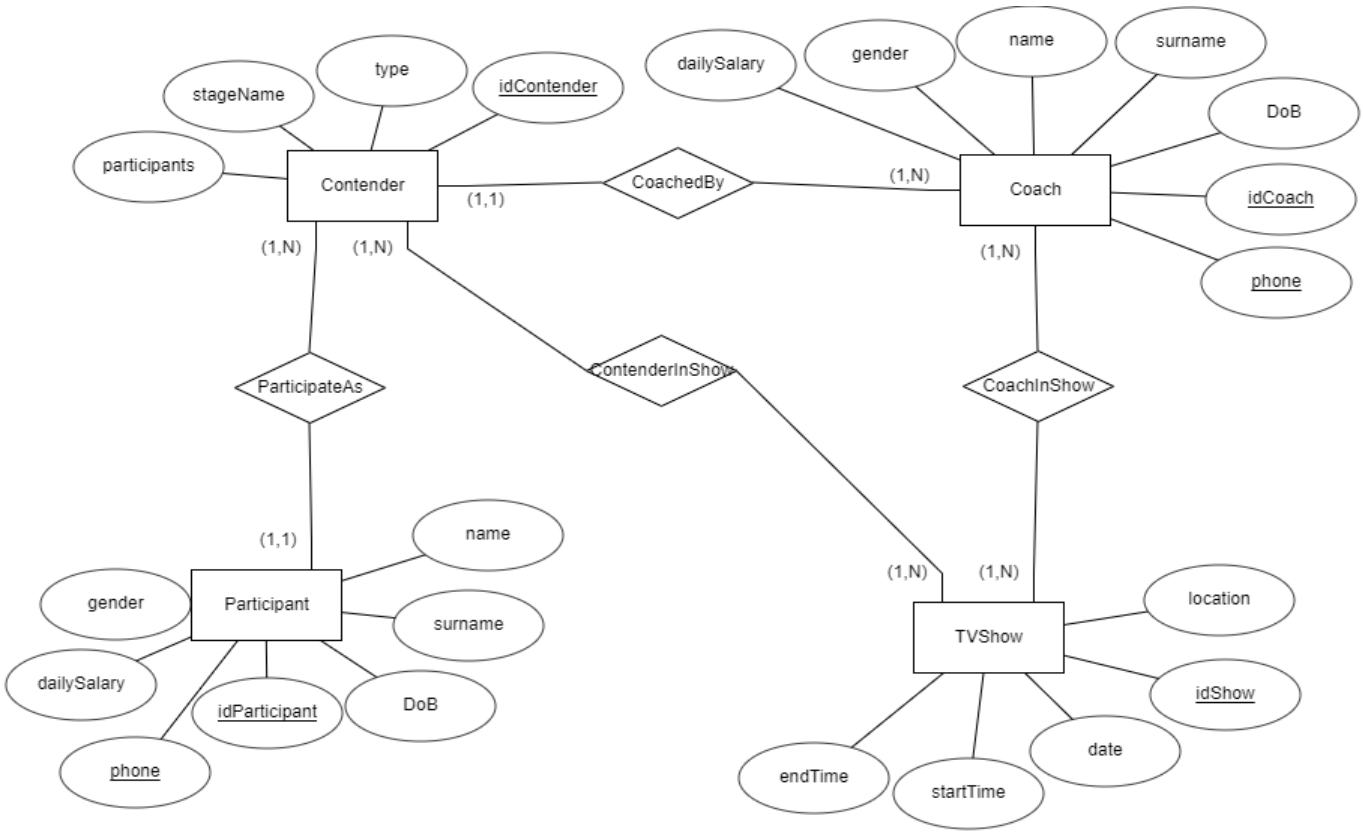
PART 1

DESIGN CHOICES

To draw the ER diagram, the website ERDPlus was used. Unique attributes were represented by underlining their names, as the program automatically does. Not all underlined attributes are primary keys. They are all *possible* primary keys. Some of the attributes present in the relational schema provided are not included in the ER diagram because they are foreign keys, that should normally not be present in ER diagrams. They are represented later on. Based on the coursework requirements as well, it is stated that the Contender entity should contain the participants to it. I thought of it as an integer that shows the amount of participants. That is not present in the relational schema provided, so it will only be in the original ER Diagram. Attributes are represented with elliptical shapes.

ER DIAGRAM



ASSSUMPTIONS

- It was assumed that if a participant is in the database, then they must be a contender, either by themselves or with a group.
- Because not specified, it was assumed that a coach must be coaching at least one contender and can coach many contenders.
- Also, a contender must have a coach, but can't have multiple coaches.
- It was assumed that a coach, to be in the database, must have participated in at least one show, and that every show must have at least one coach.
- The same can be said for the contender. To be in the database, they must have participated in at least one show, and a show must have at least one contender.
- The attribute stageName was assumed to be unique for each Contender, there shouldn't be two contenders in the show with the same name.
- An extra assumption made was that two people can't really have the same phone number, so the phone attributes in the Coach entity and the Participant entity are unique. They are not viable for a primary key though, because people can even have no phone number, so it can be null.

RELATIONAL SCHEMA

To show the different types of constraints, a relational schema was drawn. The relationships ContenderInShow and CoachInShow become tables together with the entities. In the relational schema, primary keys are the underlined attributes. Foreign keys are represented with (FK) at the end. Unique attributes with a (U).