

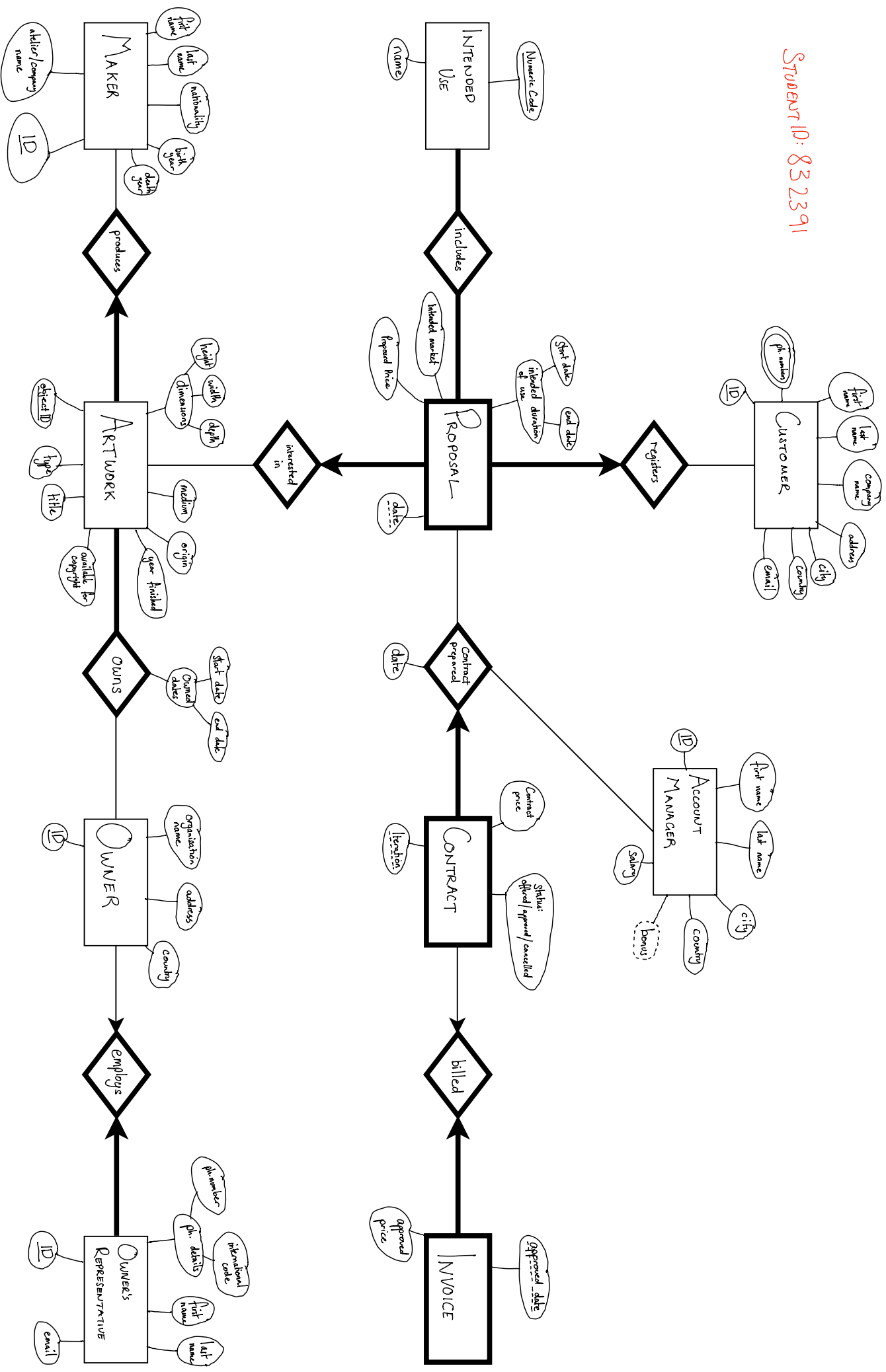
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INFO20003

ASSIGNMENT 1

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(StudentID 832391) Assumptions:

General:

- Customer, Maker, Artwork, Owner, Owner's Representative, Account Manager, Intended Uses are all strong entities as they can all exist and be identified by themselves.

Owner and Owner's Representative:

- Created Surrogate key for Owner and Owner's Representative as no other single attribute could be 100% unique and NOT NULL.
- Owner can choose not to have a Representative.

Ternary Relationship:

- Each Proposal there are optional many Contracts and Account Managers.
- Each Account Manager there are optional many Proposals and Contracts.
- Each Contracts there is mandatory one Proposal and Account Manager (assuming each time Account Manager changes a new Contract is made for the same Proposal).

Proposal:

- Proposal is a weak entity to both Customer and an Artwork and combining the unique keys of the three will always and forever be unique.
- "date" attribute as key assuming it is impossible for more than one Proposal to be submitted in the same millisecond.
- Each Proposal is mandatory one to both Customer and Artwork.

Contract and Invoice:

- Contract is a weak entity to Proposal and Account Manager since will not exist without both of their inputs to create the Contract.
- Invoice is a weak entity to Contract since cannot be uniquely identified on its own.
- Contract has optional one Invoice. Each Invoice is for one and only one Contract.

Account Manager:

- Surrogate key when there is more than one Account Manager with the same details as another.
- Derived attribute "bonus" from the Proposed Price in Proposal table and Approved Price in Invoice table to check difference greater than \$2000.

Artwork:

- Artwork is a strong entity since can be uniquely identified in the database.
- Each Artwork is produced by one and only one Maker.
- The relationship between Artwork and Owner is many to many where an Artwork is mandatory many in order to save past ownership which is why the "Owns" Relationship has start and end dates of ownership where start date is NOT NULL and end date can be NULL to account for the Owner currently owning the Artwork.

Maker:

- Surrogate key when no details about a Maker is known, we can still identify in database.

Intended Uses:

- Intended Use has Mandatory Many to Mandatory Many relationship with Proposal since each Proposal must have one or more Intended Uses and Each Intended Use must have one or more Proposals (Assuming you cannot add new Intended Uses without using it in a Proposal).

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