

Kids Crew - A Child Care Service

Milestone: Conceptual Model

Group 11

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Percentage of Effort Contributed by Student1: 50%

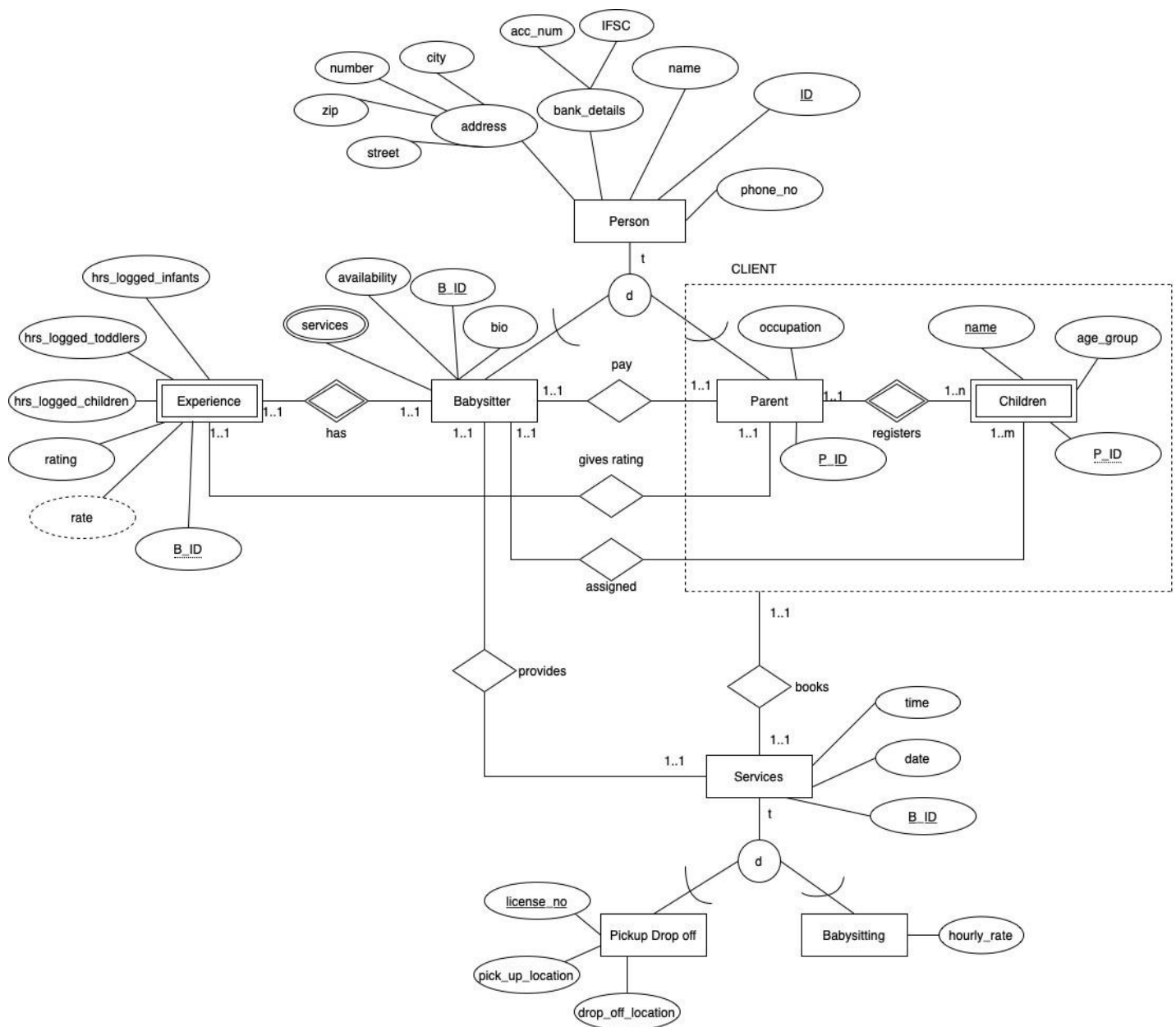
Percentage of Effort Contributed by Student2: 50%

Signature of Student 1: Sharayu Thosar

Signature of Student 2: Pranjali Bhatt

Submission Date: October 15th, 2022

EER model



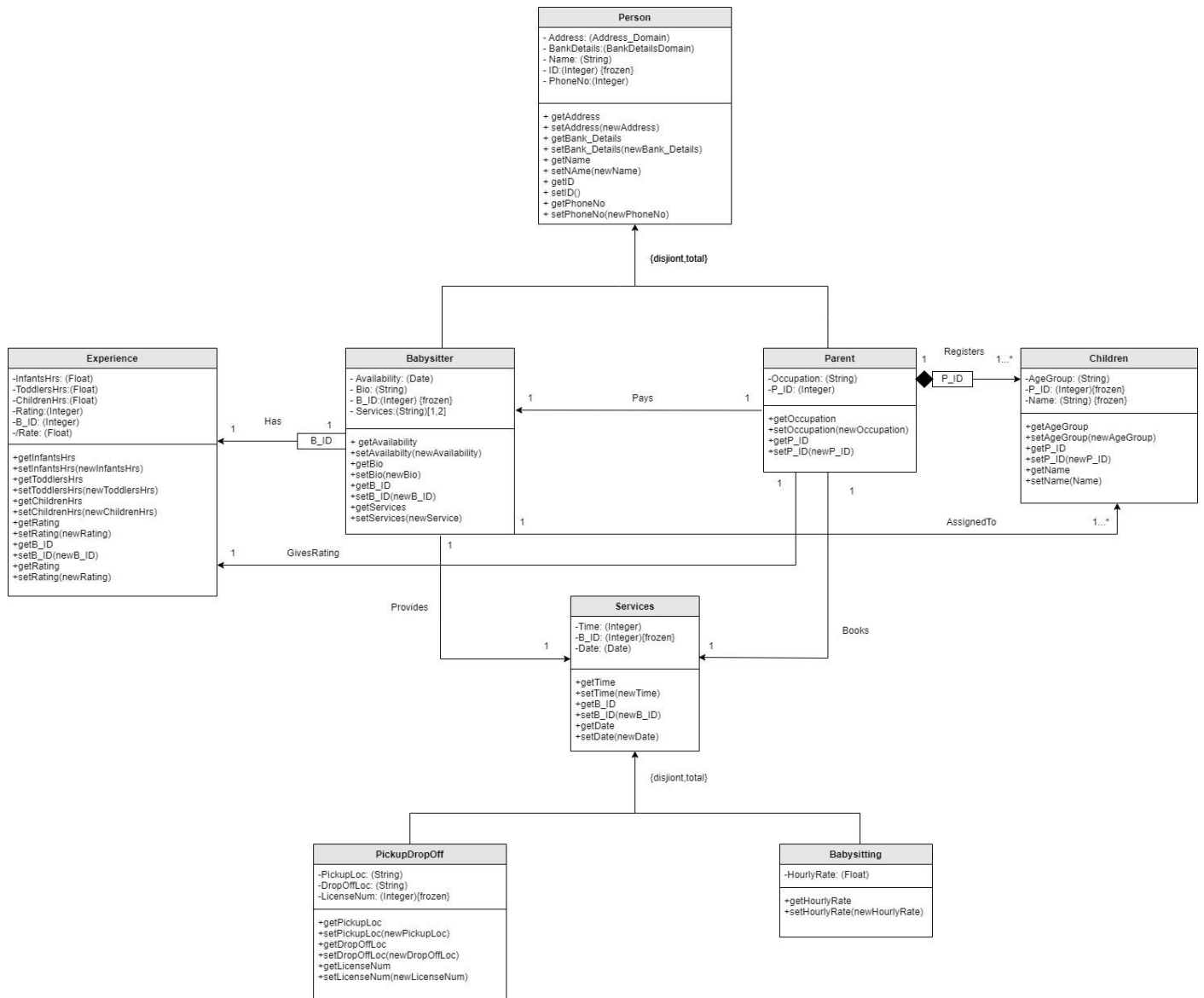
Limitations

1. ER model does not depict the sequence of data storage. For example:
Parent first books the service, pays for it and then provides a rating.
2. Following can't be specified:
 - a. "Availability" attribute type describes the next day time availability.
Example: 9am- 2pm
 - b. "Bio" attribute type describes the babysitter so that parents can select effectively.
 - c. Age group domains are infants (1-3), toddlers (4-6), children (7-10).
 - d. Babysitters update their availability everyday for the next day and if it is the same then no update required.
 - e. The initial rate (no experience) for babysitting will be \$15 and it gets updated with experience.
 - f. The pick up/drop of rate will be \$2.60 per mile.

Business Rules

1. Rate is a derived attribute. It is calculated based on the number of hours logged in and rating(1-5).
2. The babysitting hourly rate increases based on experience.
3. The pickup/drop off rate remains constant (\$2.60 per mile).
4. Sitters use their own vehicle to pick up and drop off the child.
5. Payment occurs automatically after the service is completed through bank account details provided during registration.
6. Parents can't book babysitting and pick up drop off services in one booking.

UML Model



OCL Constraints

Context: Experience
invariant: self.rate > 0

Context: Experience
invariant: self.rating >= 1 AND self.rating <= 5

Context: Person
invariant: self.PhoneNo->size()=10

Context: Children
invariant: self.AgeGroup = (Infants, Children, Toddlers)

1. Address domain is defined as address_domain data type
2. BankDetails domain is defined as BankDetails domain data type
3. Services is multi valued variable that can be 1 or 2 services
4. Parent and Children classes are in composite aggregation
5. Rate is a derived attribute and will be calculated in the setRate method
6. All IDs for parent, babysitter and person classes are frozen variables
7. Qualified Associations:
 - a. Parent and Children classes
 - b. Experience and Babysitter classes