



### Database Project Assignment 3: Entity Relationship Diagram & Documentation

For each employee, they are assigned an Employee ID when they are hired, then all the personal information is entered into the system. First name, last name, home address, phone number, and date of birth. Other data points that are included into the employee profile is which department the new employee will be working under and is assigned a department number. Also, whether the employee is available to work on every day that passes is also logged into the profile. The last item that is recorded into the employee profile is the emergency ID that is connected to the database that has all the contact information for each employee.

The emergency contact chart holds all the contact information that is provided for each employee, because more than one employee can have the same emergency contact, like if two employees are siblings, the chart was separated from the employee chart. Once the contact is given an ID much like the employee, then all the details are gathered as well such as first name, last name, date of birth, phone number, home address, and the relationship that connects the emergency contact and the employee.

The department chart just contains the primary key of a number that is assigned to each department, the name of the department that pertains to each department number, and a record of how many employees are contained in each department.

While not all employees are truck drivers, most of them are. If an employee is a truck driver then a truck is not assigned to them, they provide their own. All the truck information is recorded and is associated with the driver with the employee ID. Each truck must also have insurance for it to operate in

Illinois, so the insurance provider is recorded by using the insurance company name as a foreign key. Then more details on the truck are logged to have a more detailed look at each truck such as color, make, model, year, license plate number, total miles driven, and finally, the truck number that is assigned in case that a different driver is chosen to drive a different truck.

The insurance providers are all grouped together into their own chart to record all the details pertaining to each company such as, the company name, the address or the location in which they are based, the company phone number, the truck number that is associated with each company, and the company email that contact is going to be made through.

When each truck is assigned an order, they begin by updating or starting a truck log. The truck logs primary key is the date and time that its is created. The driver is the one that will be updating the log and they record the starting milage of the truck and the ending milage once the complete trip has been completed. Some automatic math will be applied to these two sections to receive the total miles driven in the entirety of the trip. If at any point on the trip the driver uses money to refuel the truck, usually it is recommended at the start of any trip, the amount spent will also be recorded and updated if fueling occurs more than once. The foreign keys in this chart would be the corresponding truck number, and the order number that was assigned before the trip began. Also depending on the trip, if the truck were to leave the state, the states traveled to would also be recorded.

The last chart will be the orders that make the trucking company function. These orders are filled by the companies that need the shipments to be fulfilled. Once the customer fills the order and is sent to the company, it is assigned a order number. The order also has plenty of important information for the order to be made fast. The order contains the name of the company or customer, the address of the location that the shipment needs to be loaded or picked up, then the location that the shipment needs to be dropped off, a brief description of what is contained in the order is important in case some contraband is being shipped or how the shipment should be handled. A rough estimate of how many miles the trip would be used in to quote how much the service will cost in the end for the customer. Finally, the amount that will be charged will be calculated when the shipment description and the total miles is inputted.