

King Fahd University of Petroleum & Minerals College of Computer
Sciences and Engineering

Information and Computer Science Department

ICS 321

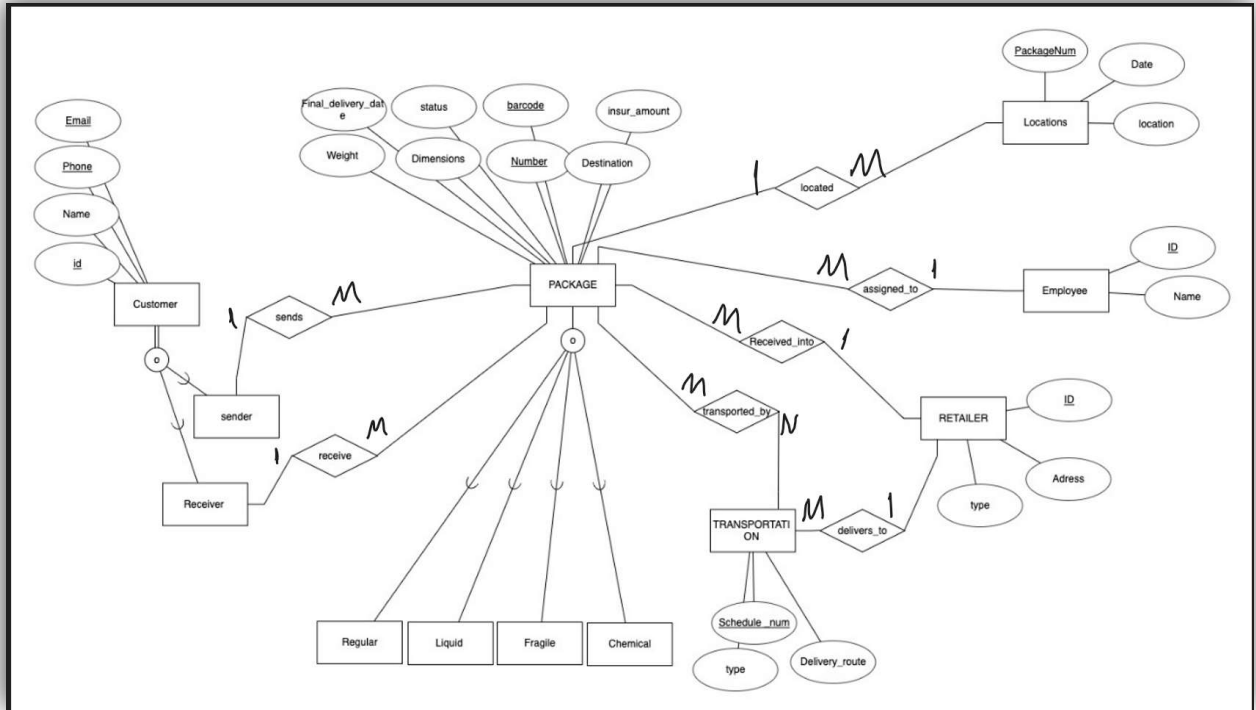
Phase I

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EER



Relational Schema

Package

<u>barcode</u>	<u>number</u>	destination	insur_amount	dimensions	status	final_delivery_date	weight	EID	RID	SenderID	ReciverID
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Customer

<u>ID</u>	name	senderFlag	reciverFlag	Phone	Email
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Locations

<u>packageNum</u>	date	location	Pnumber	Pbarcode
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Employee

<u>ID</u>	name
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Retailer

<u>ID</u>	Address	Type
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Transportation

<u>schedule_num</u>	type	delivery_route	RID
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Transported_By

<u>Tschedule_num</u>	Pnum	Pbarcode
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Regular

<u>Pnumber</u>	Pbarcode	info
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Liquid

<u>Pnumber</u>	Pbarcode	info
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Chemical

<u>Pnumber</u>	Pbarcode	info
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Fragile

<u>Pnumber</u>	Pbarcode	info
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Constraints and Business rules

- a) The packages are categorized as Regular, Fragile, Liquid, Chemical etc.
- b) The status of the packages is as follows in transit, delivered, lost or damaged.
- c) The value and insurance amount of the package is maintained as well as the payment to the company based on weight as cost for delivering the package.
- d) Any company employee or customer should be able to search their packages by their ID, category, city and delivery date.
- e) The movement history including the current place of the package in transit must be produced upon request.
- f) The system should be able to retrieve information of packages not delivered, damaged or lost.
- g) The system should identify fines for delayed packages. For lost or damaged packages, the insurance amount is delivered to the customer instead of the package.
- h) The system should be able to send notifications whenever the packages become available for delivery as well as if they are delayed.
- i) Each package will have a unique barcode that the system will be able to read.

Tools & Resources

- <https://erdplus.com/>