METRO FIBER

Using Cairo's subway for delivery

Analysis Phase

metrofiber

ISD 100—Introduction to Systems & Informatics

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Computerization of the system prototype (Several concepts from existing packaging system are given)

I.   **After gathering criteria, those tables are discovered:**

1. **Table metro_station**

Columns

Column name	Type	Properties	Description
Id	Int	PK	
Name	varchar(255)		
state_id	Int		
Address	varchar(255)		
contact_details	text		
Manager	varchar(255)		
contact_person	varchar(255)		

Alternate keys

Key name	Columns	Description
metro_station	Name	

2. Table package_carrier_to_warehouse

Columns

Column name	Type	Properties	Description
Id	Int	PK	
employee_code	varchar(255)		
first_name	varchar(128)		
last_name	varchar(128)		
active_from	date		
active_to	date	Null	
is_active	bool		

Alternate keys

Key name	Columns	Description
package_carrier	employee_code	

3. Table location

Description: a list of metro stations and warehouses where shipments can be submitted for delivery.

Columns

Column name	Type	Properties	Description
Id	int	PK	
location_name	varchar(255)		
station_in_charge	int		
station_id	int	Null	
Description	text	Null	

Alternate keys

Key name	Columns	Description
Location	location_name	

4. Table state

Columns

Column name	Type	Properties	Description
Id	int	PK	
state_name	varchar(255)		
postal_id	int		
Latitude	decimal(9,6)		
Longitude	decimal(9,6)		

5. Table inside_cairo

Columns

Column name	Type	Properties	Description
Id	int	PK	
state_name	varchar(255)		

Alternate keys

Key name	Columns	Description
Country	state_name	

6. Table service

Description: list of all services.

Columns

Column name	Type	Properties	Description
Id	Int	PK	
sevice_name	varchar(255)		
description	Text		
is_active	Bool		

Alternate keys

Key name	Columns	Description
Service	sevice_name	

7. Table service_avaliable

Columns

Column name	Type	Properties	Description
Id	Int	PK	
location_id	Int		
service_id	Int		
details	Text	Null	

Alternate keys

Key name	Columns	Description
service_avaliable	location_id, service_id	

8. Table train_id_name

Columns

Column name	Type	Properties	Description
id	int	PK	
train_id	varchar(255)		

Alternate keys

Key name	Columns	Description
processing_option	train_id	

9. Table barcode_verify

Columns

Column name	Type	Properties	Description
Id	int	PK	
barcode_sender_id	int		
barcode_reciever_id	int		
Details	text	null	

10. Table location_connection

Columns

Column name	Type	Properties	Description
id	int	PK	
location_from	int		
location_to	int		
connection_type_id	int		

Alternate keys

Key name	Columns	Description
location_relation	location_from, location_to, connection_type_id	

11. Table train_speed

Columns

Column name	Type	Properties	Description
id	int	PK	
train_speed	varchar(255)		

Alternate keys

Key name	Columns	Description
status_catalog	train_speed	

12. Table package_status

Columns

Column name	Type	Properties	Description
Id	int	PK	
package_id	int		
status_catalog_id	int		
package_carrier_id	int	null	
time_assigned	timestamp		

13. Table package

Columns

Column name	Type	Properties	Description
Id	int	PK	

package_code	varchar(255)		
package_category_id	int		
recipient_barcode	text		
sender_barcode	text	null	
location_start	int		
location_end	int		
time_inserted	timestamp		
time_delivered	timestamp	null	

Alternate keys

Key name	Columns	Description
Package	package_code	

14. Table assigned_to

Columns

Column name	Type	Properties	Description
id	int	PK	
package_id	int		
package_carrier_id	int		
time_assigned	timestamp		
time_completed	timestamp	null	

15. Table package_category

Columns

Column name	Type	Properties	Description
Id	Int	PK	

category_name	varchar(255)		

Alternate keys

Key name	Columns	Description
package_category	category_name	

16. Table location_assigned

Columns

Column name	Type	Properties	Description
Id	Int	PK	
package_carrier_id	Int		
location_id	Int		
start_date	date		
end_date	date	null	
details	text	null	

Alternate keys

Key name	Columns	Description
location_assigned	package_carrier_id, location_id, start_date	

Other requirements:

II. Logistics Tracking

Our logistics option is more in-depth, and it lets you know where a shipment is, as well as where and when it is expected to arrive. To trace items during their delivery, we deploy active tracking devices such as disposable GPS tags. Our tracking devices follow packages from start to finish and report on their integrity, security, and whereabouts.

III. Data Security

Cyber-attacks and data breaches are more widespread than ever, yet the system site employs cutting-edge data protection measures.

IV. Verification of user using barcode

The system will generate a unique barcode for the sender to digitally hand to the receiver; the package will not be delivered unless this barcode is scanned, even if the receiver has a national ID that matches the receiver information; this will prevent many frauds that they encountered with the paper-based system.

V. Scalability

The system is kept on a website because they are handy because your data consumption is unrestricted.

VI. User-Friendliness

Even if the staff or users have no prior experience with software. Streamlined, user-friendly UX to aid their operations.