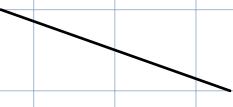




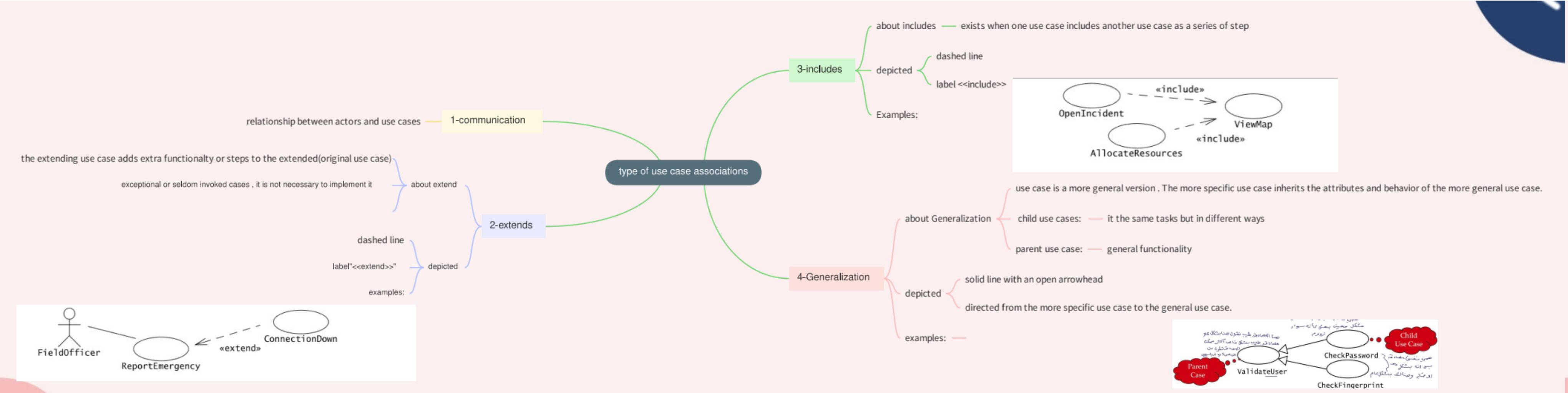
## Type of UML

### 1- use case diagrams :-

1. about use cases:	<ul style="list-style-type: none"> <li>* Describe the functional behavior of the system.</li> <li>* graphical representation of the functionalities of a system and actor</li> </ul>	وصف الوظائف التي ي Gerçek حا النظام تقابل رسومي لوظائف النظام والجهات الفاعلة
2. used :-	<ul style="list-style-type: none"> <li>* during requirements elicitation and analysis</li> <li>1- used to demonstrate the different ways that a user or group of users interacts with a system.</li> </ul>	سُتُّم لتوبيخ تفاعلاً المستخدم مع النظام
3- can be used to :-	<ul style="list-style-type: none"> <li>2- Describe the functionality of the system</li> <li>3- Define the scope of the system</li> <li>4- Identify Potential errors or omissions .</li> </ul>	وصف وظائف النظام تقرير حدود النظام والجهات اتحاده وحالاته والاستثناء

5- advance:-	*making it easier to understand and communication to others.	
6. a use case model :-	describe the functionality of the system + Actors	use case كـ مـ عـ لـ مـ
7- Consists of	*Consists of :-  1- actor :- user , devices , other system interact with the system but not part of it	Shape :- Stick man or stereotyped box outside your system
	2-use case :- represent a class of functionality provided by the system it must start :- verb	ellipSe labeled يـ بـ كـ وـ نـ دـ اـ لـ
	3- System boundary :- rectangel surrounding use case (inside the system) name of your System being developed.	rectangel العناصر التي متـ ضمنـ النـ ظـ اـمـ يـ بـ كـ وـ نـ دـ اـ لـ وـ الـ اـ لـ اـ كـ اـ رـ يـ
	4- relationship between (actor - use case) :- line between actor - use case	





Note that extend relationships and inheritance relationships are different.

How?

extends

inheritance

صنا لو أسته صنا

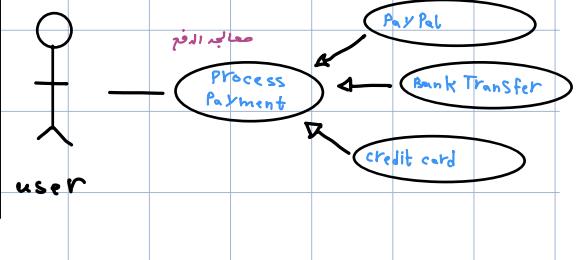
هنا لو أسته صنا (Parent) use case

ممكن صاستخدم

الأساسية كابد (ب يعني) اتنا راح نستخدم

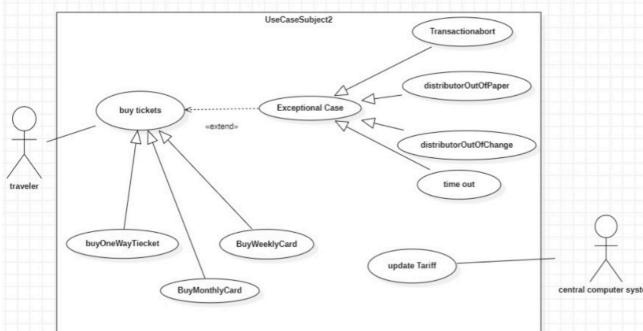
هي إضافي صنا ننته ممكن

احد ال child ← لأن هي تضم ما كان بيك تفصيلي



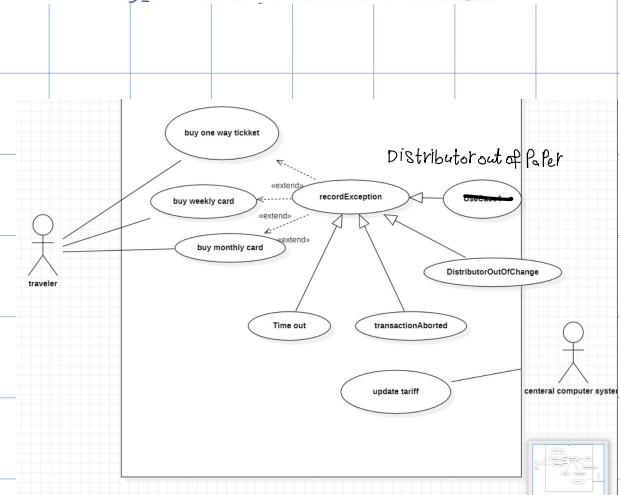
examples :-

\* الحالين صحيحة

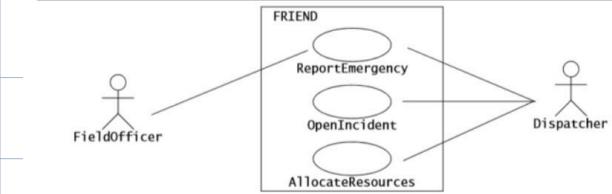
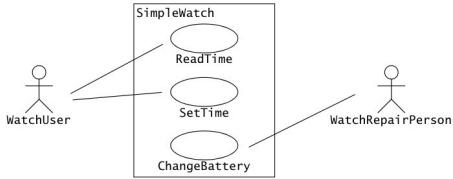


a) Exercise 2

Draw a use case diagram for a ticket distributor for a train system. The system includes two actors: a traveler, who purchases different types of tickets, and a central computer system, which maintains a reference database for the tariff. Use cases should include: BuyOneWayTicket, BuyWeeklyCard, BuyMonthlyCard, UpdateTariff. Also include the following exceptional cases: Time-Out (i.e., traveler took too long to insert the right amount), TransactionAborted (i.e., traveler selected the cancel button without completing the transaction), DistributorOutOfChange, and DistributorOutOfPaper as RecordException Use Case.



For example, Figure 2-1 depicts a use case diagram for a simple watch. The WatchUser actor may either consult the time on their watch (with the ReadTime use case) or set the time (with the SetTime use case). However, only the WatchRepairPerson actor can change the battery of the watch (with the ChangeBattery use case).



**Figure 2-13** An example of a UML use case diagram for First Responder Interactive Emergency Management Database (FRIEND), an accident management system. Associations between actors and use cases denote information flows. These associations are bidirectional: they can represent the actor initiating a use case (FieldOfficer initiates ReportEmergency) or a use case providing information to an actor (ReportEmergency notifies Dispatcher). The box around the use cases represents the system boundary.