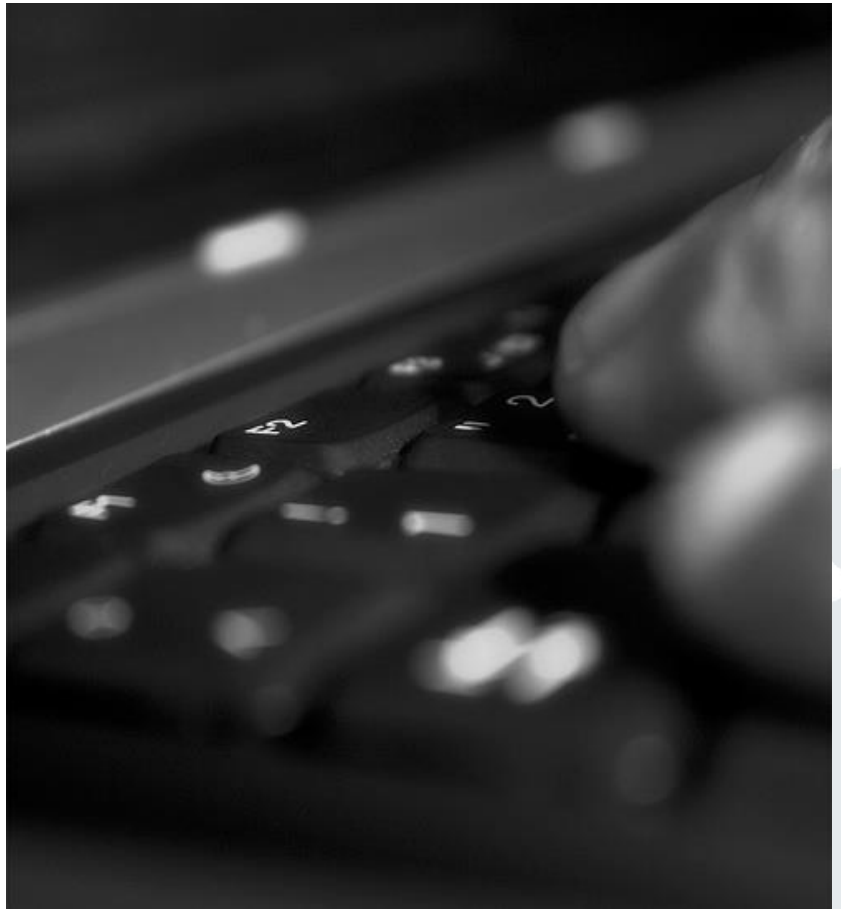


Mentorium 5
Business Informatics 2 (PWIN)

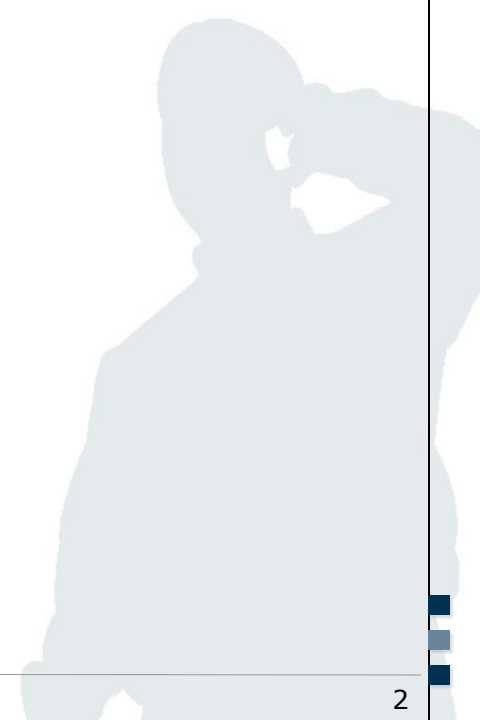
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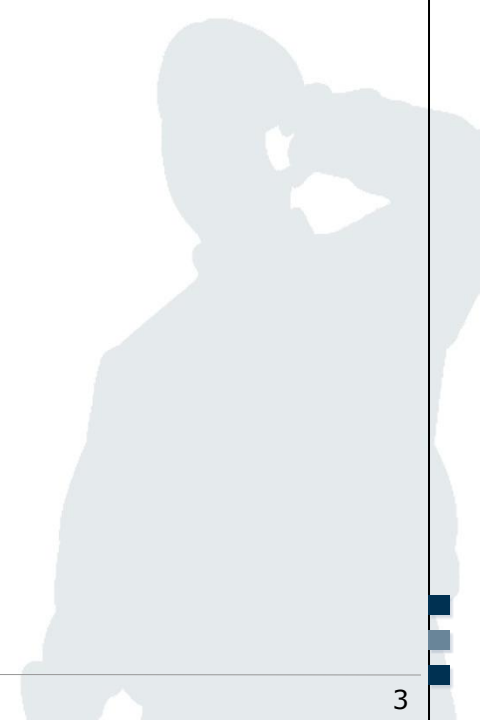


Jenser (Flickr.com)

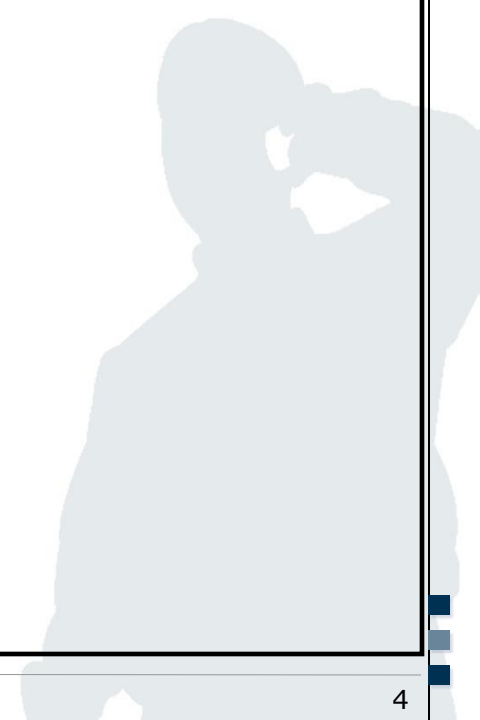
- XML and DTD
- Unified Modeling Languages



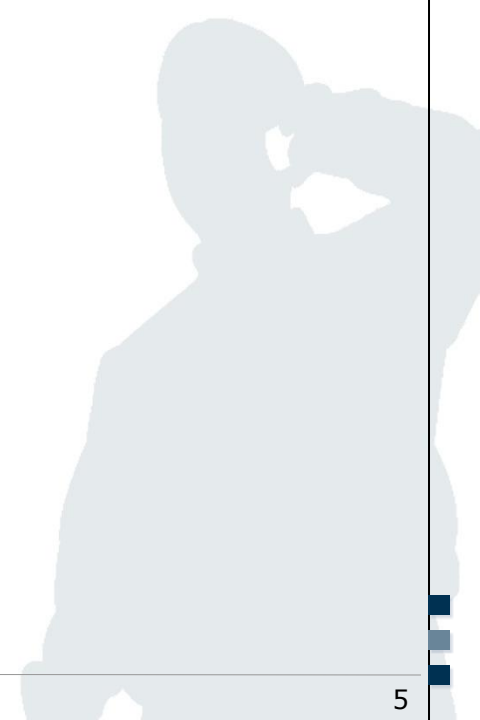
1.1 Create a DTD based on the following XML document. Note that the <Location> element can appear 1 or more times.



```
<?xml version="1.0"?>
<Locations>
  <Location>
    <Name>DASEIN</Name>
    <Rating>Good</Rating>
  </Location>
  <Location>
    <Name>Sturm und
      Drang</Name>
    <Rating>Good</Rating>
  </Location>
</Locations>
```

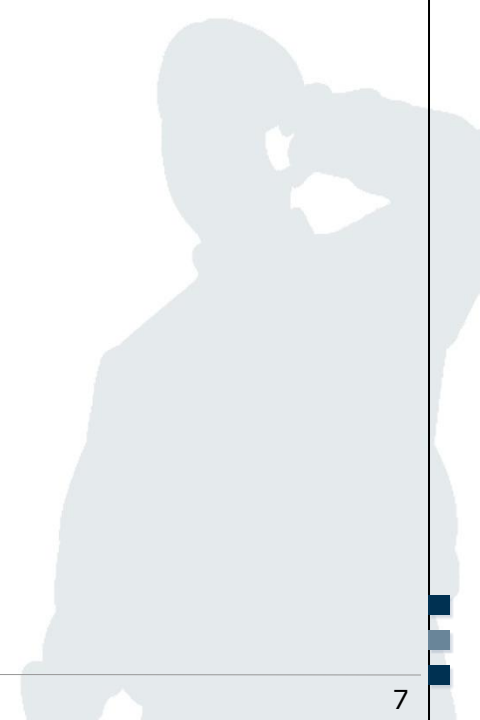


1.2 Create an exemplary XML document based on the following DTD file. The `<records>` element must not be empty.

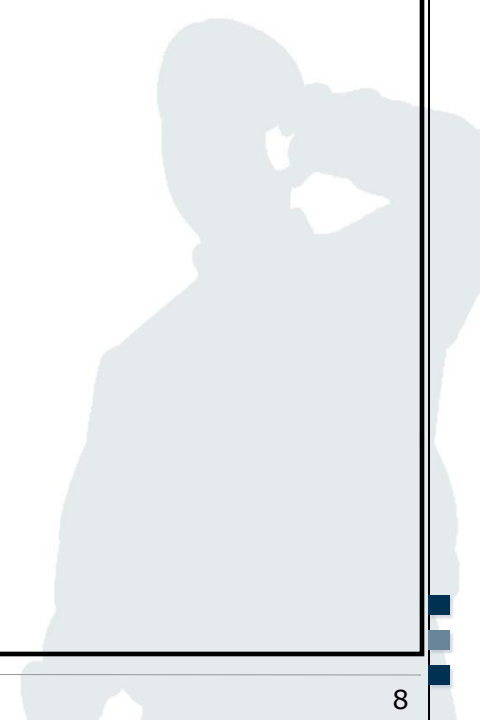


```
<!DOCTYPE records [  
<!ELEMENT records (record*)>  
<!ELEMENT record (title,  
artist, composer?, price)>  
<!ELEMENT title (#PCDATA)>  
<!ELEMENT artist (#PCDATA)>  
<!ELEMENT composer (#PCDATA)>  
<!ELEMENT price (#PCDATA)>  
>
```

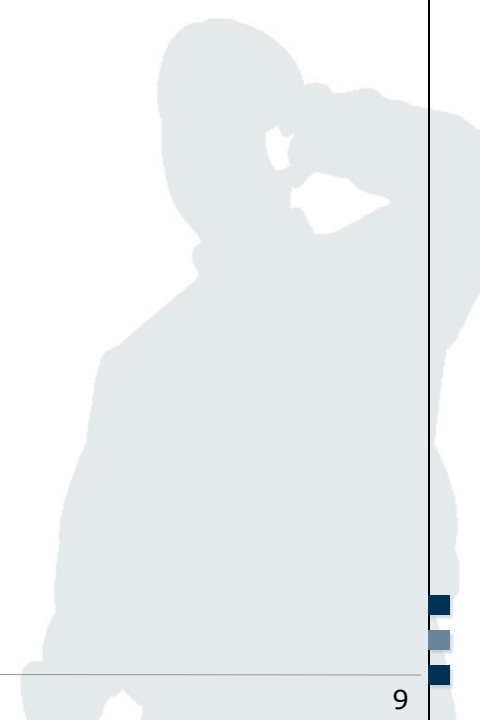
1.3 Create a DTD based on the following XML document.
Note that the <email> element is mandatory and
<student> should appear at least 1 time.



```
<?xml version="1.0"?>
<lecture>
  <student>
    <name>Max Muster</name>
    <subject>WiWi</subject>
    <semester>4</semester>
    <email>max@abc.de</email>
    <email>max@xyz.de</email>
    <fax>123456789</fax>
  </student>
  <student>
    <name>Erika Muster</name>
    <subject>WiWI</subject>
    <semester>4</semester>
    <email>em@mail.de</email>
  </student>
</lecture>
```



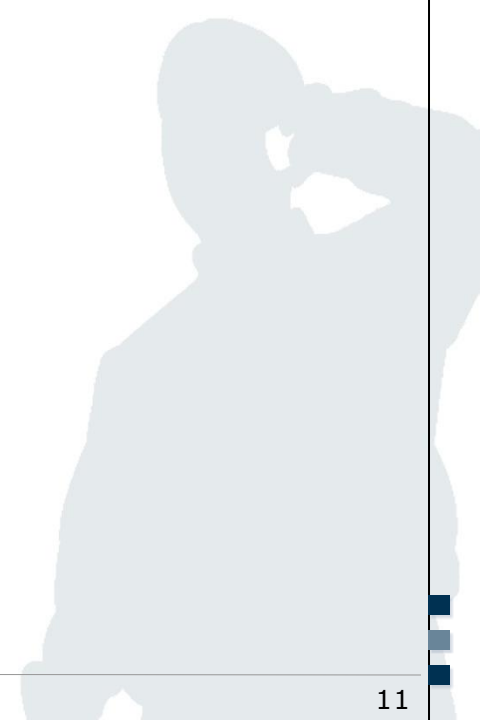
- XML and DTD
- Unified Modeling Languages



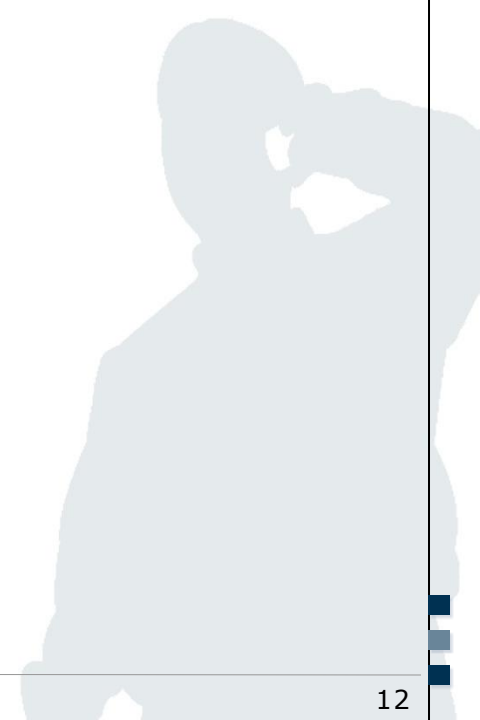
2.1 Create a use case diagram for a password manager app:

A user can either view stored passwords or create a new password. Both use cases require an authentication. The app supports both user authentication by password and authentication by fingerprint. To create a new password, the user has to use an integrated password generator. Furthermore, he has to enter a description for his new password.

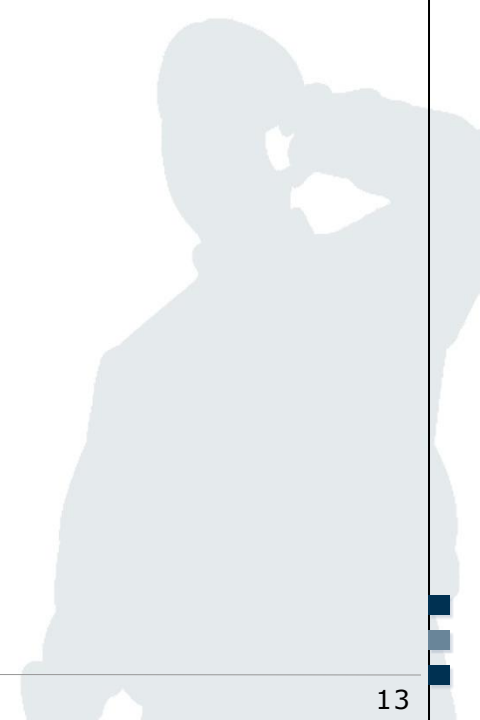
2.2 a) You are one of the programmers of the MyPlace Service. Assume your manager wants you to model the login process by using the appropriate UML diagram.



2.2 b) Additionally, your manager plans to integrate the Facebook login functionality into the myPlace Service. Model the corresponding extended login process by using the appropriate UML diagram.



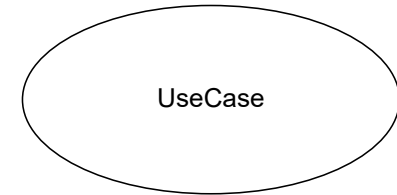
UML - Use Case Diagram



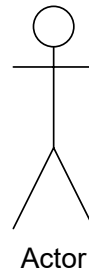
Repetition: Use Case Diagram Notation Elements (1/3)

- **Use Case**

- Representation of a sequence of actions that provides value to an actor.

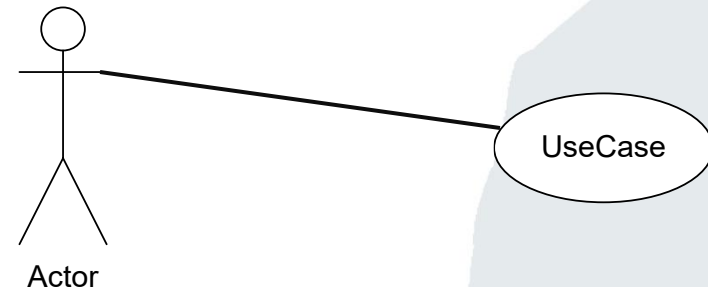


- **User of the system**



- **Association**

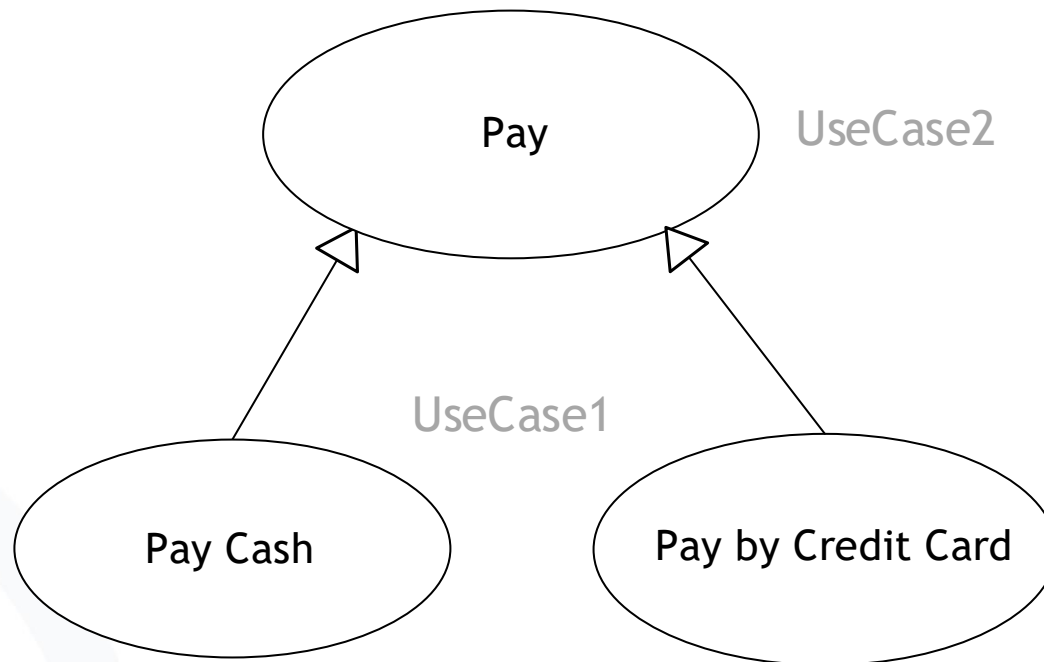
- Interaction of an actor with a use case



Repetition: Use Case Diagram Notation Elements (2/3)

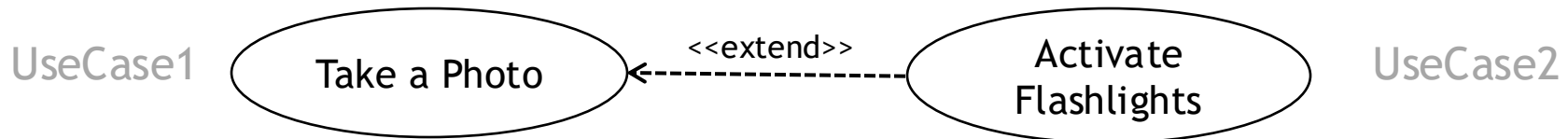
- **Generalisation**

- Generalisation of use cases
- UseCase2 generalises the behaviour of UseCase1

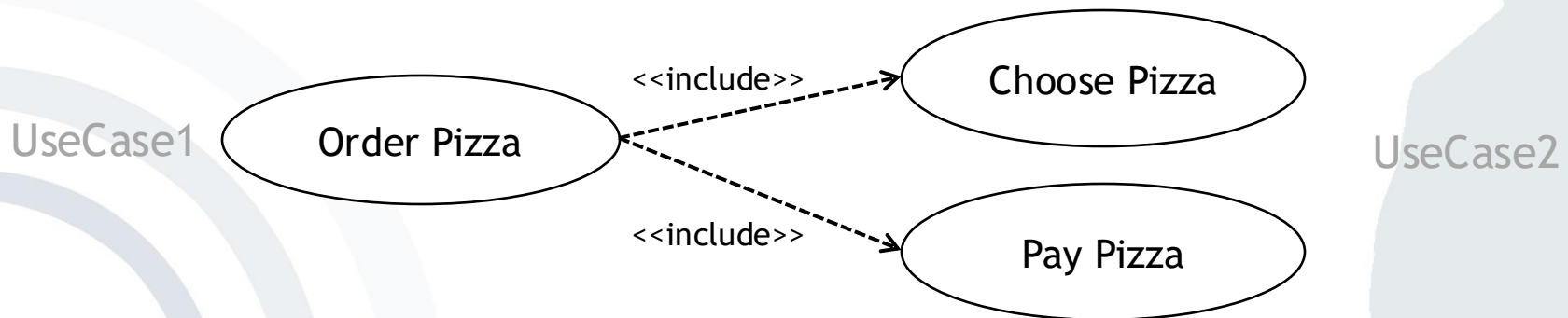


Repetition: Use Case Diagram Notation Elements (3/3)

- **<<Extend>>**
 - Extends a use case
 - UseCase2 extends UseCase1

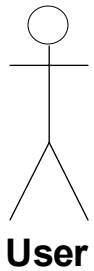


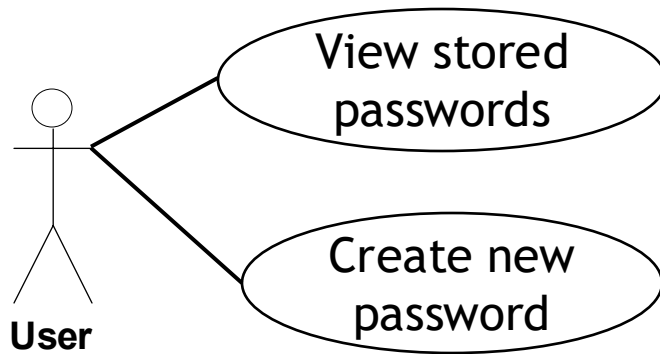
- **<<Include>>**
 - Inclusion of a use case
 - UseCase1 includes the behaviour of UseCase2

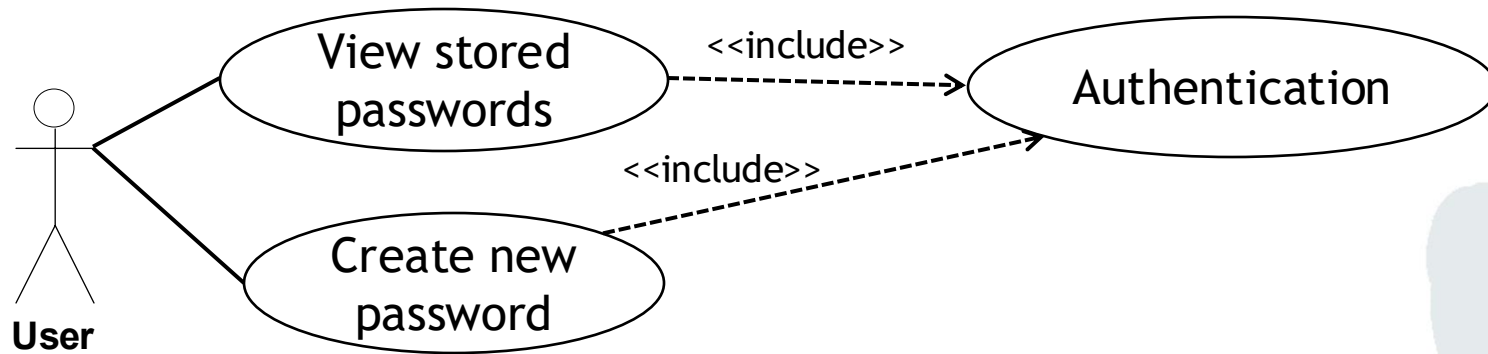


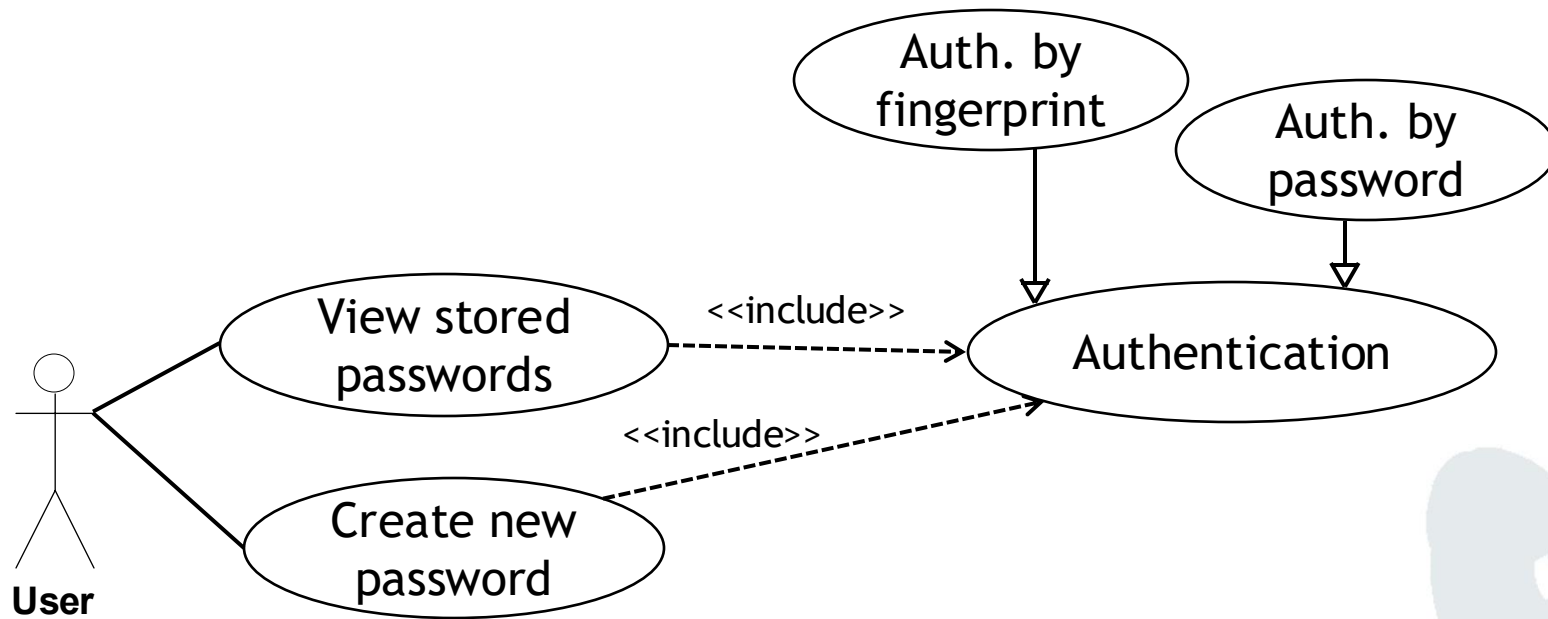
3.1 Create a use case diagram for a password manager app:

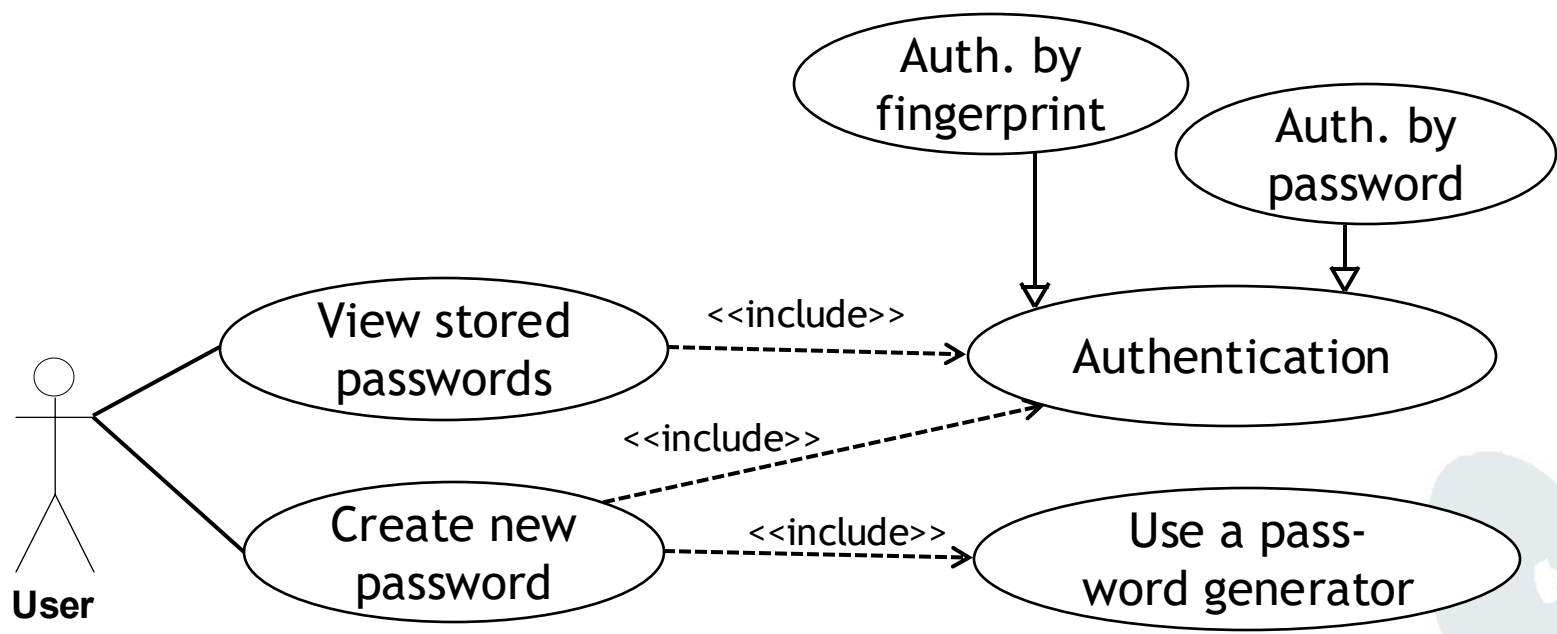
A user can either **view stored passwords** or **create a new password**. Both use cases require an **authentication**. The app supports both user **authentication by password** and **authentication by fingerprint**. To **create a new password**, the user has to **use** an integrated **password generator**. Furthermore, he has to **enter a description** for his new password.



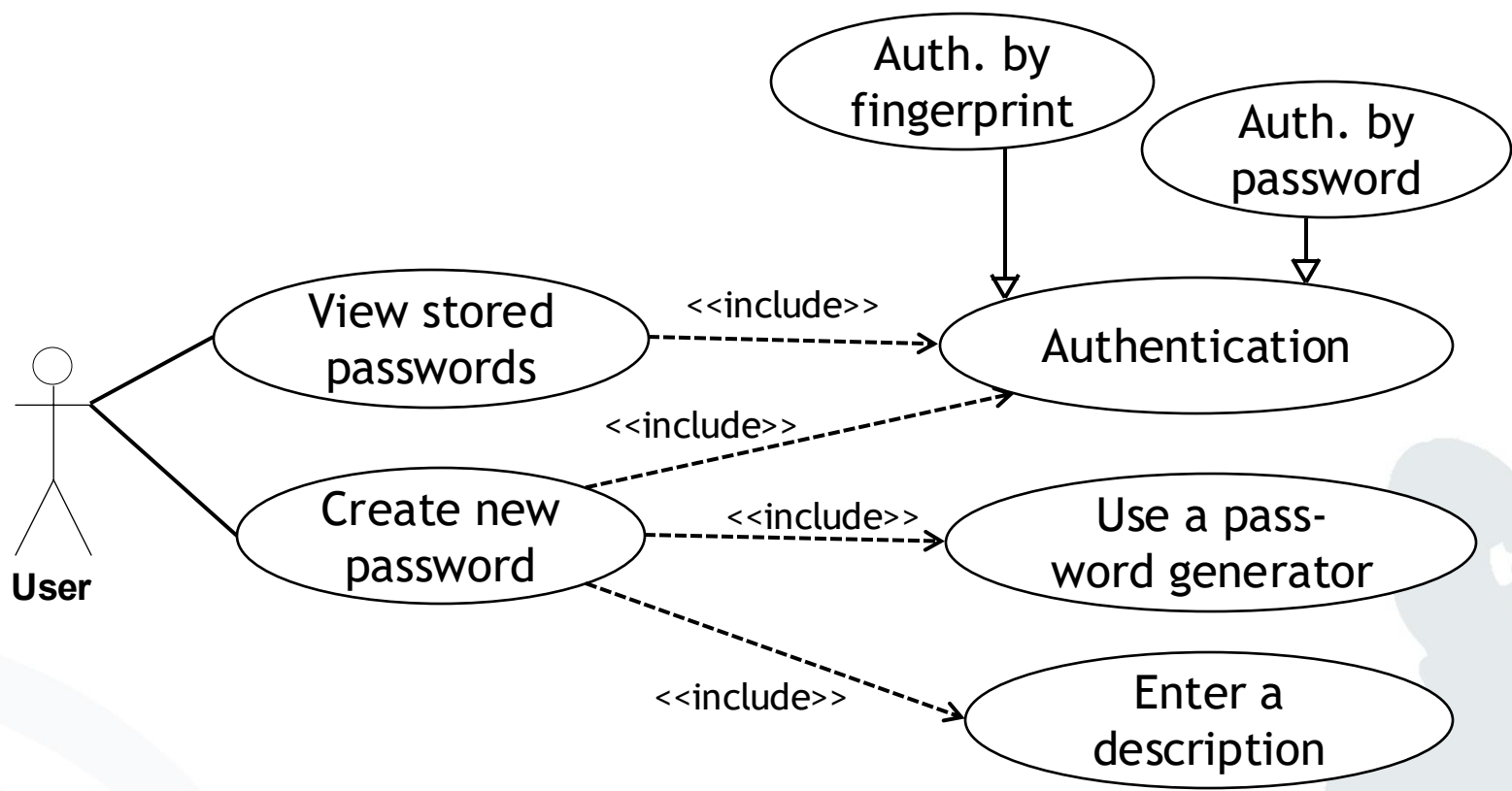




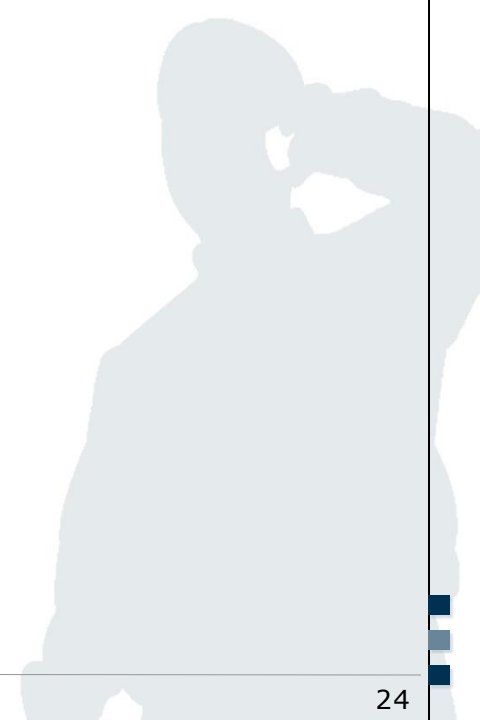




Use Case Diagram



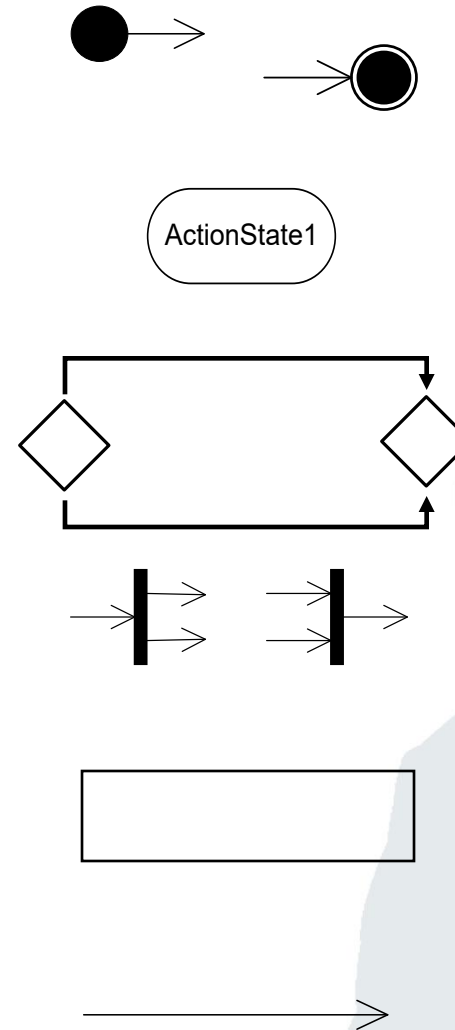
UML - Activity Diagram



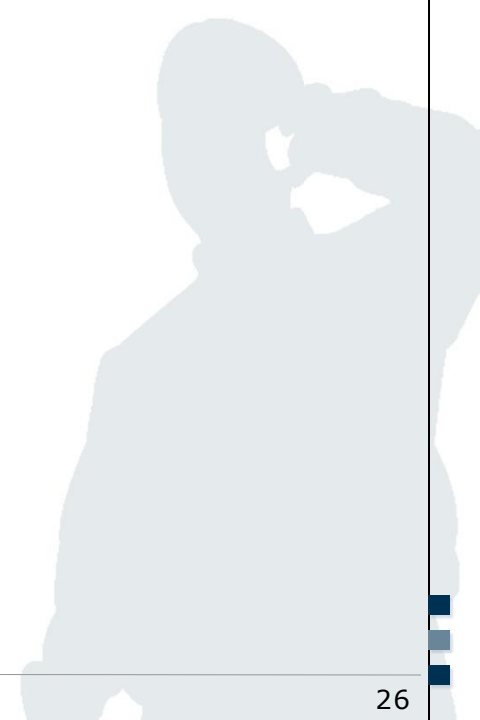
Repetition: Activity Diagram Notation Elements

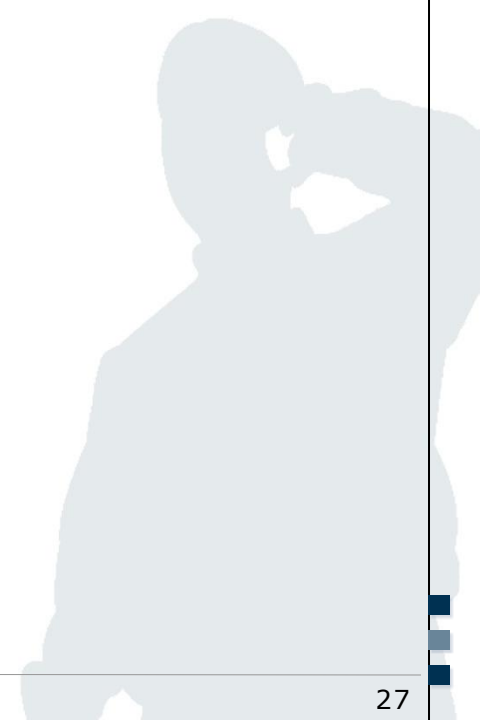
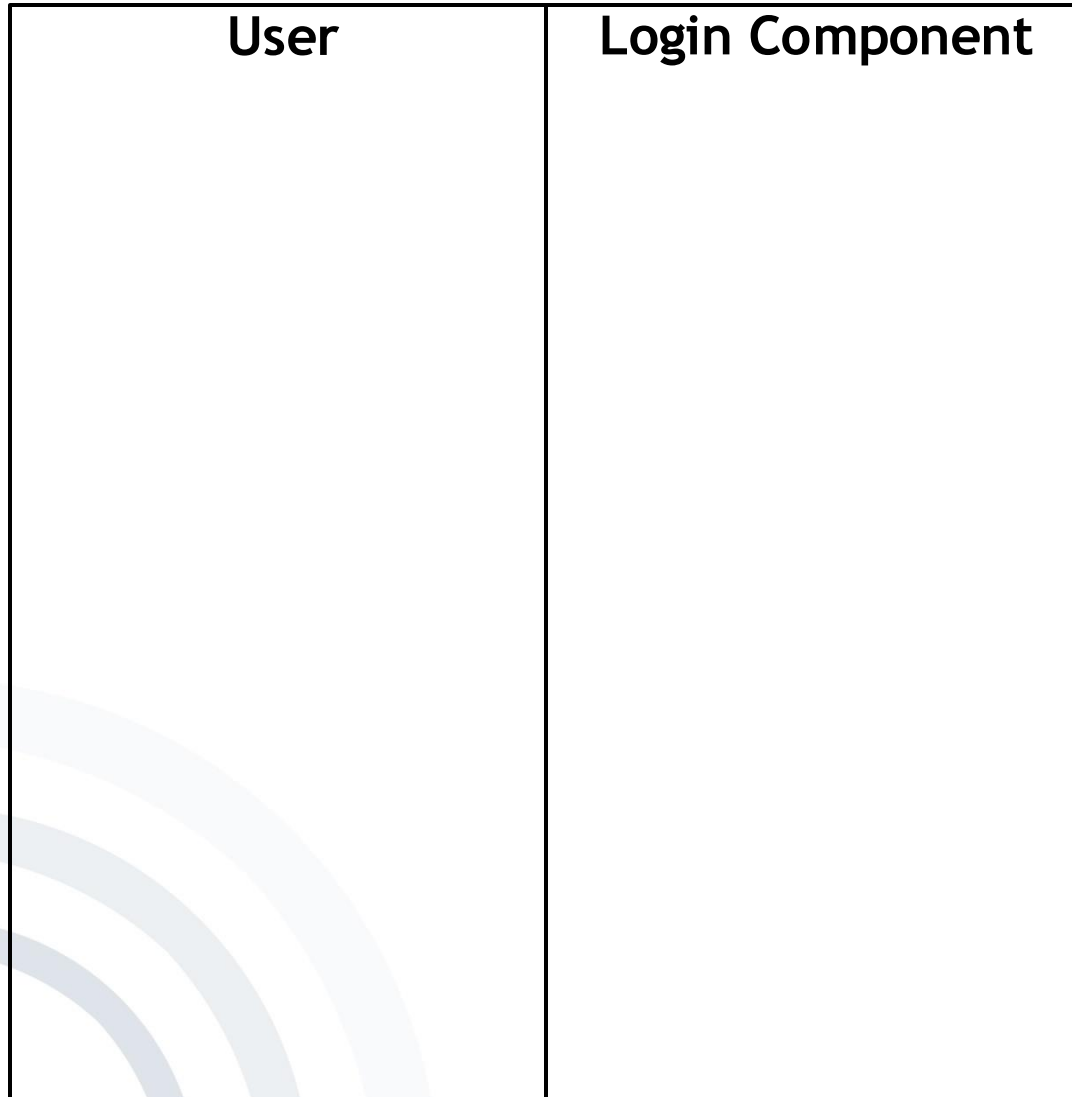
Notation elements

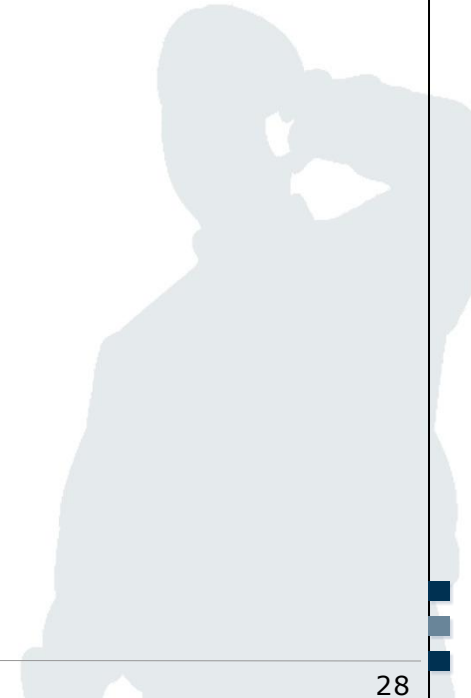
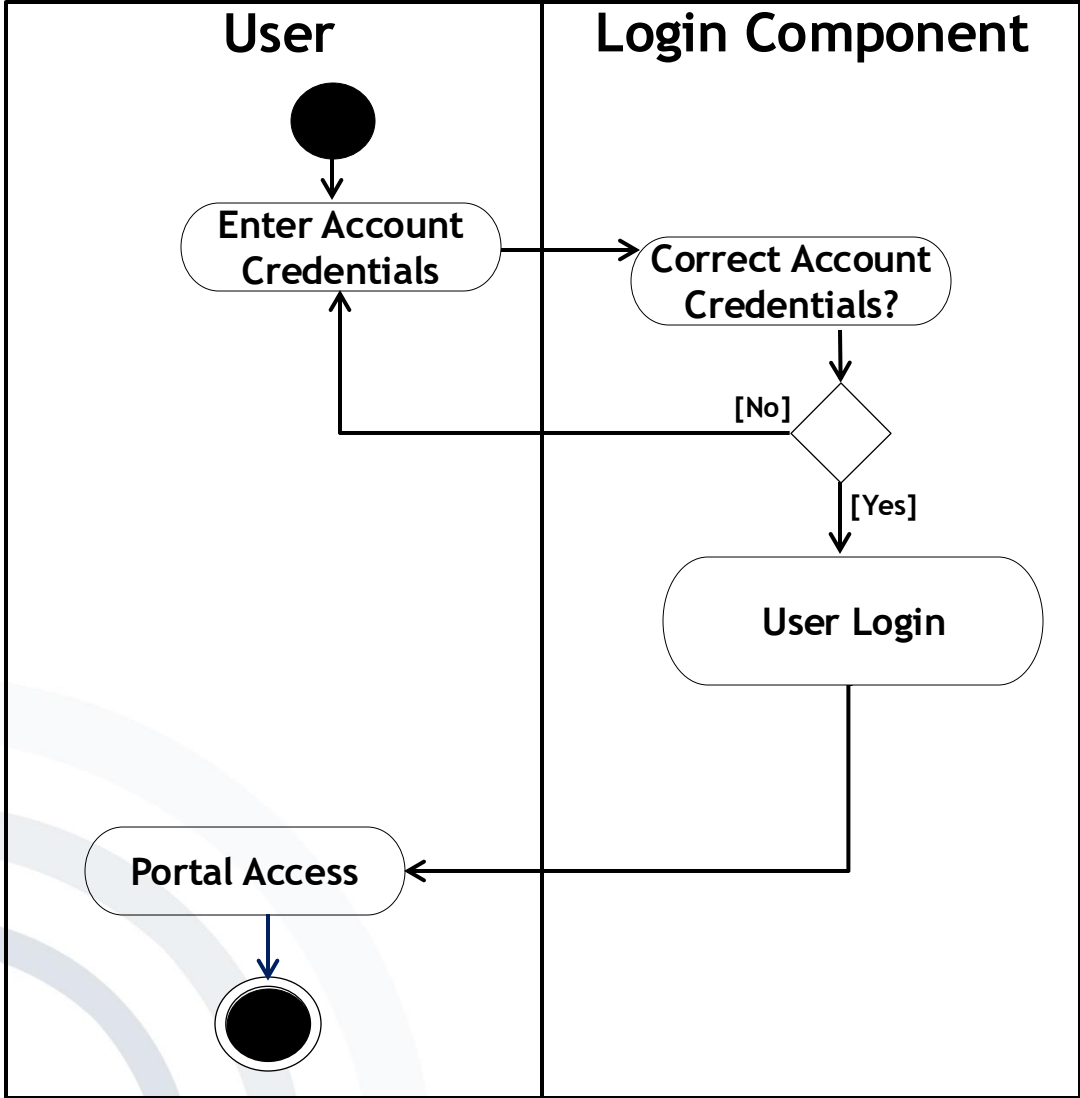
- Initial state/final state
- Activity
- Decision
- Split/join
- Responsibility
- Activity flow



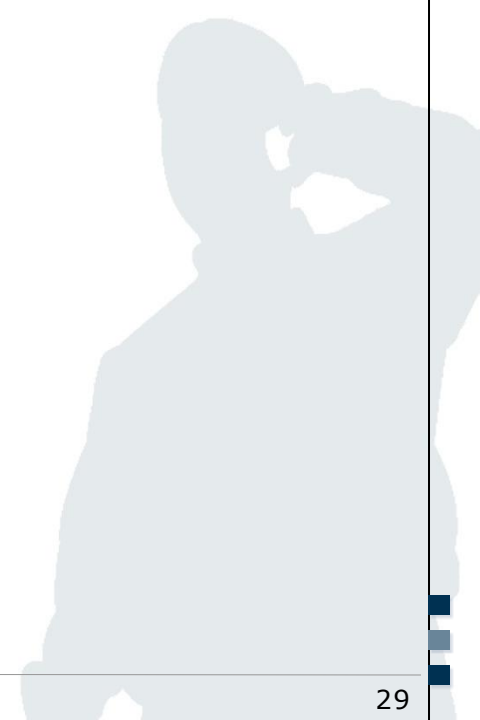
3.2 a) You are one of the programmers of the MyPlace Service. Assume your manager wants you to model the login process by using the appropriate UML diagram.

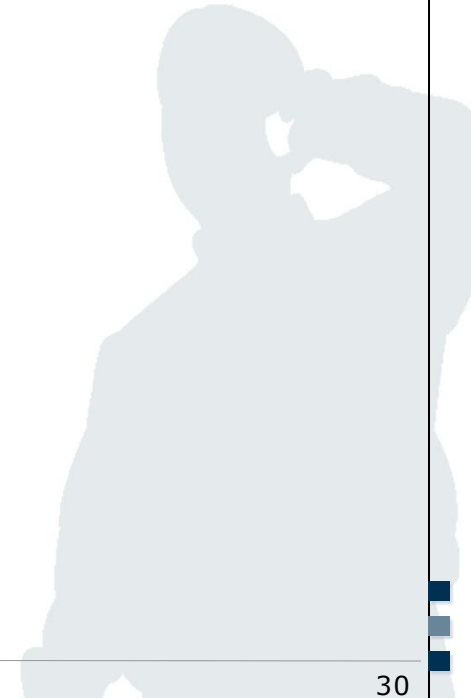
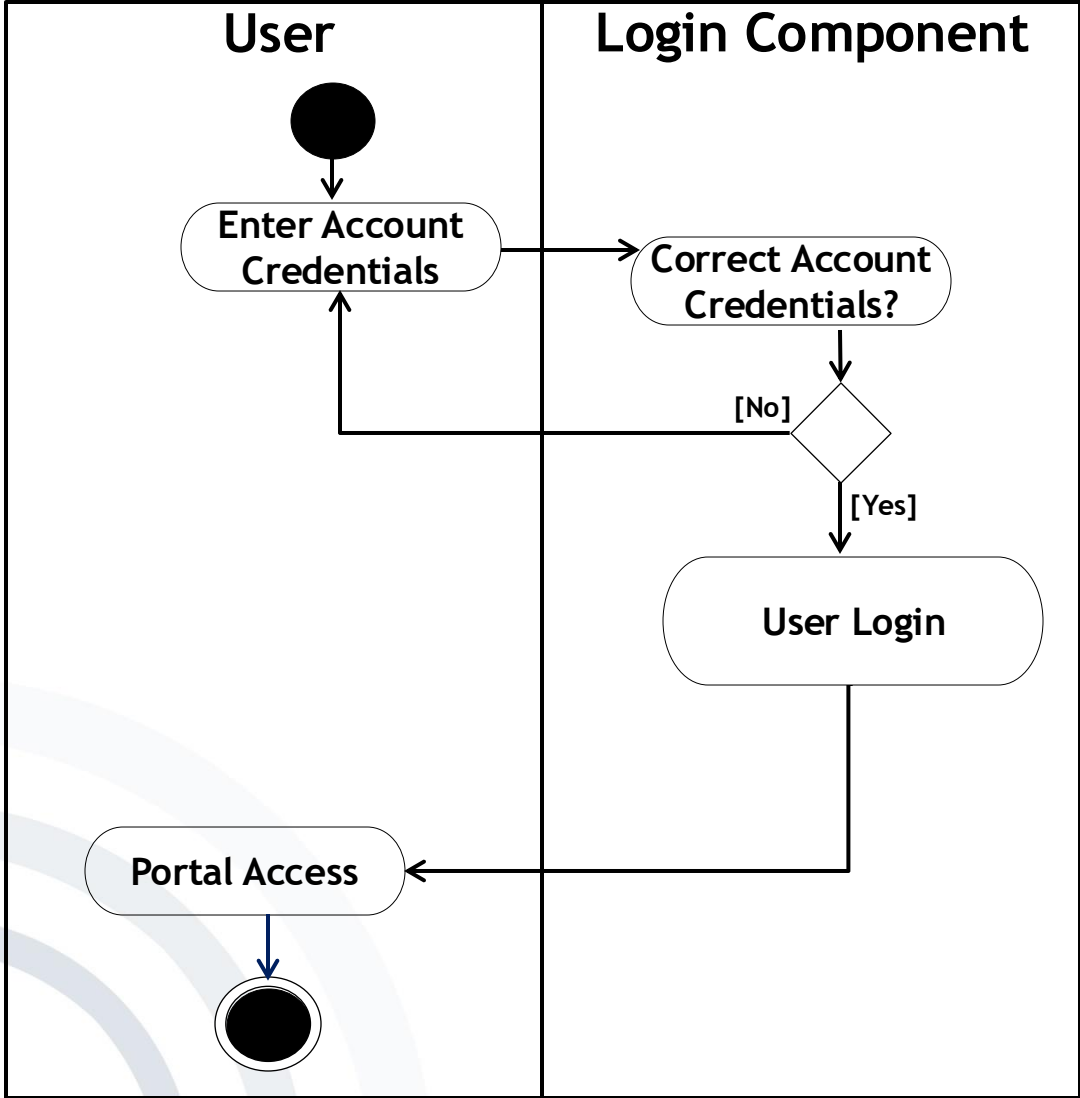


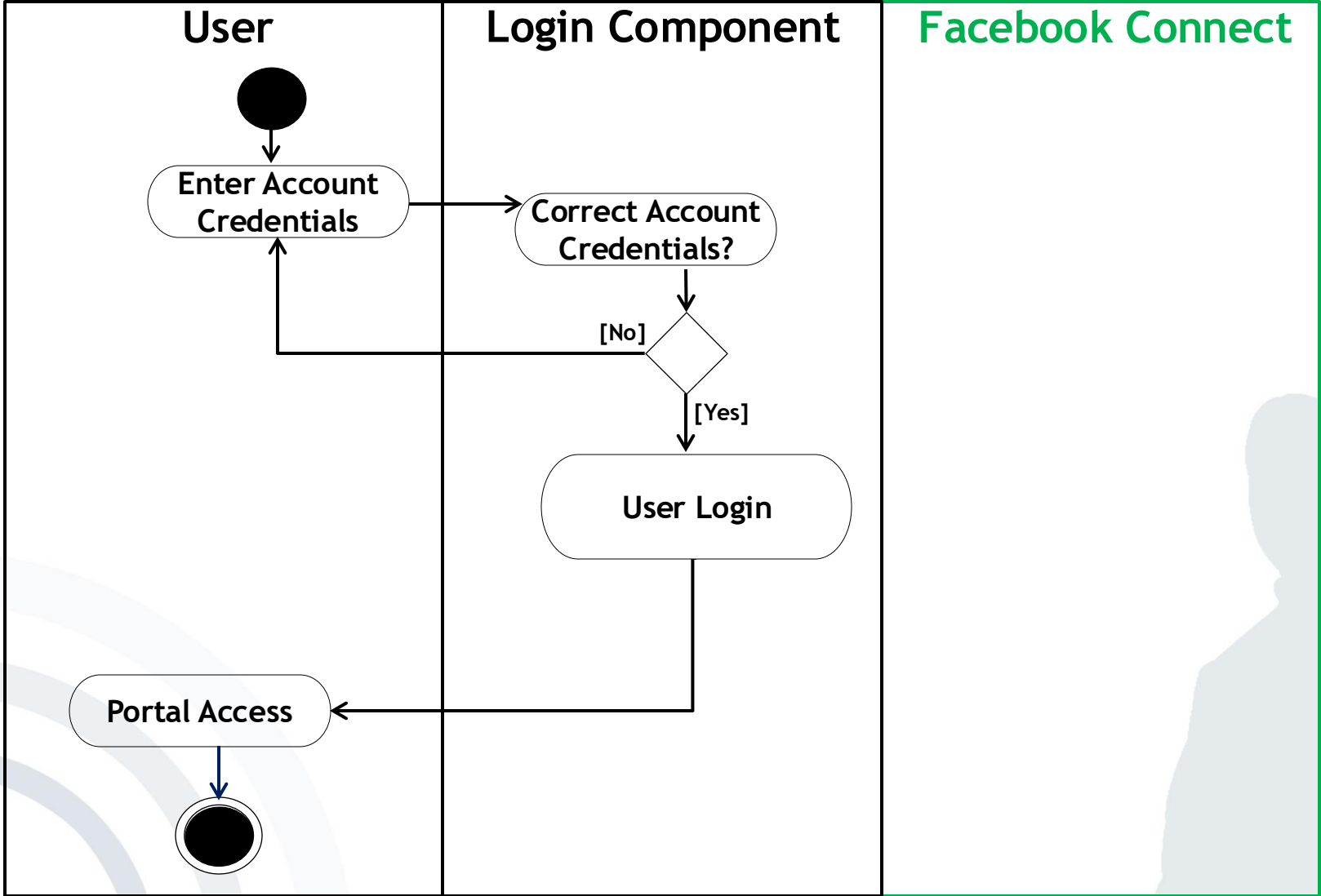


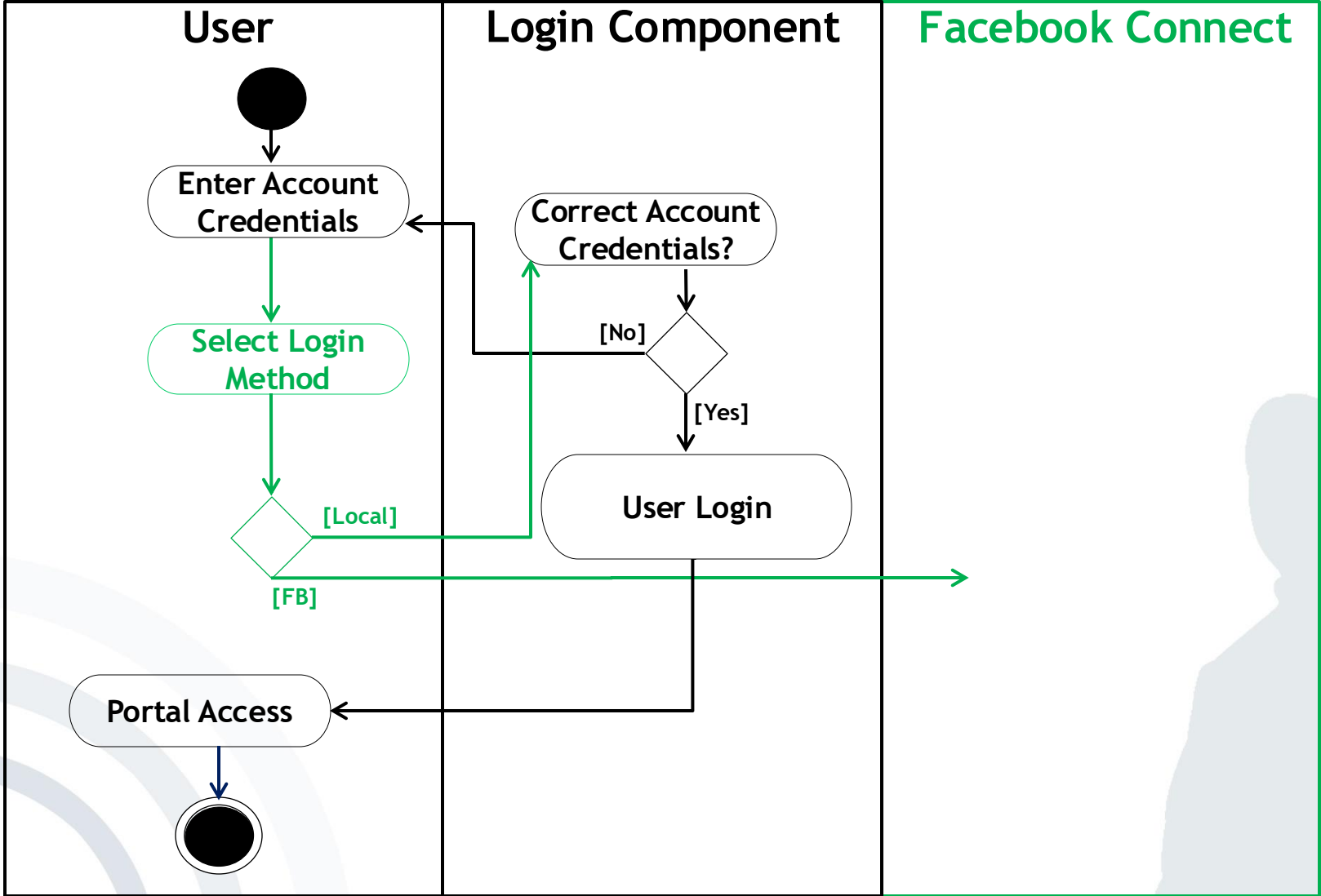


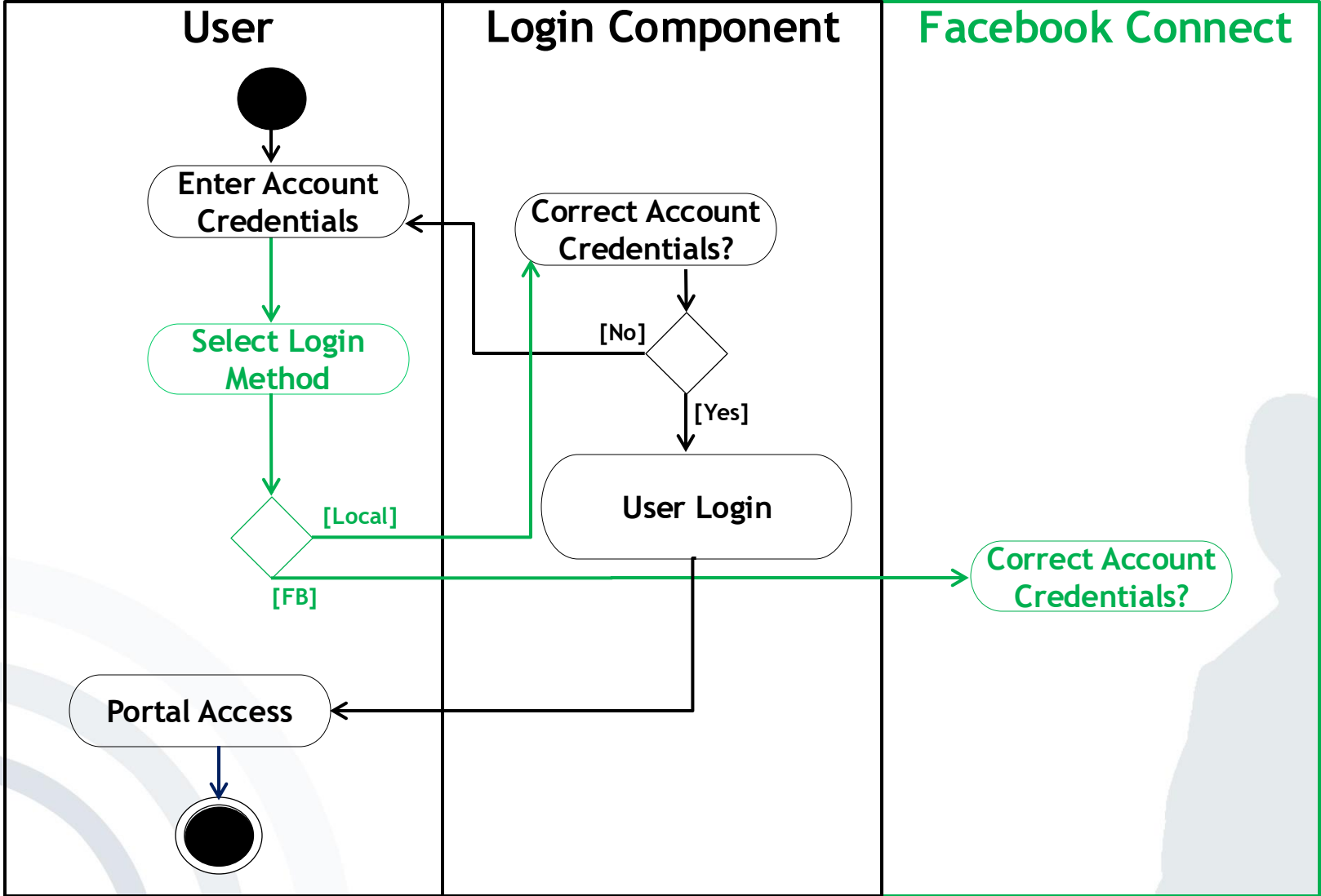
3.2 b) Additionally, your manager plans to integrate the Facebook login functionality into the myPlace Service. Model the corresponding extended login process by using the appropriate UML diagram.

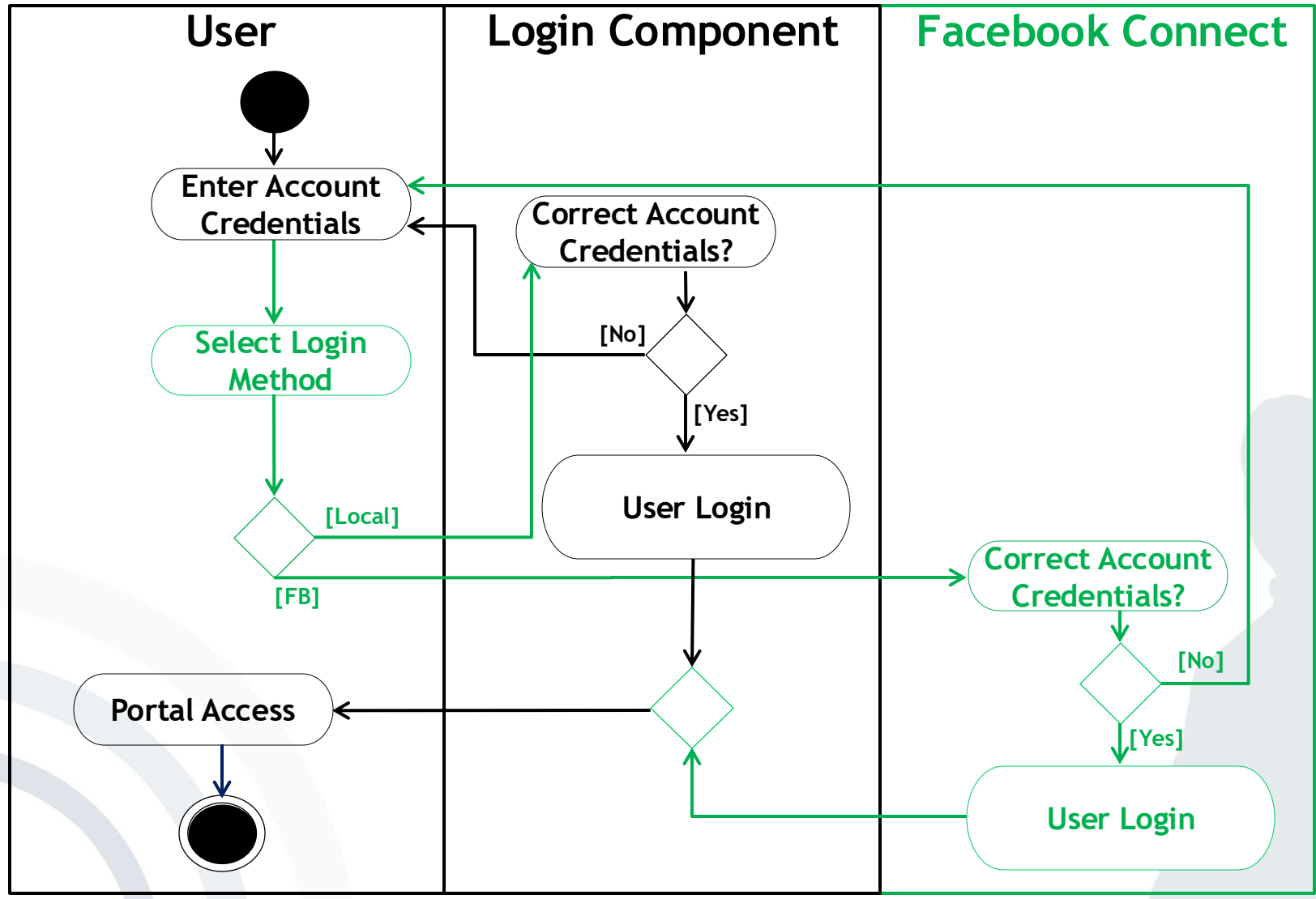












Open Questions?

