National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”

Practical assignment. 7 types of UML diagrams

“Postrelation database”

Performed by:

Bohdan Kalika

TM-01mp

Reviewed by:

Iryna Mikhaylova

Kyiv – 2020

1. Diagram of precedents

```
@startuml
left to right direction
actor "customer" as user

actor "admin" as admin

rectangle Product as "Products page" {
   usecase "Get" as get_products
   usecase "Add to a cart" as add
   usecase "Delete from the cart" as delete_product
   usecase "See details" as details
}

user --> get_products
user --> add
user --> delete_product
user --> details

rectangle Orders as "Cart page" {
   usecase "Get" as get
   usecase "Buy" as buy
   usecase "Delete" as delete
}
user --> get
user --> buy
user --> delete

rectangle Admin as "Admin page" {
```

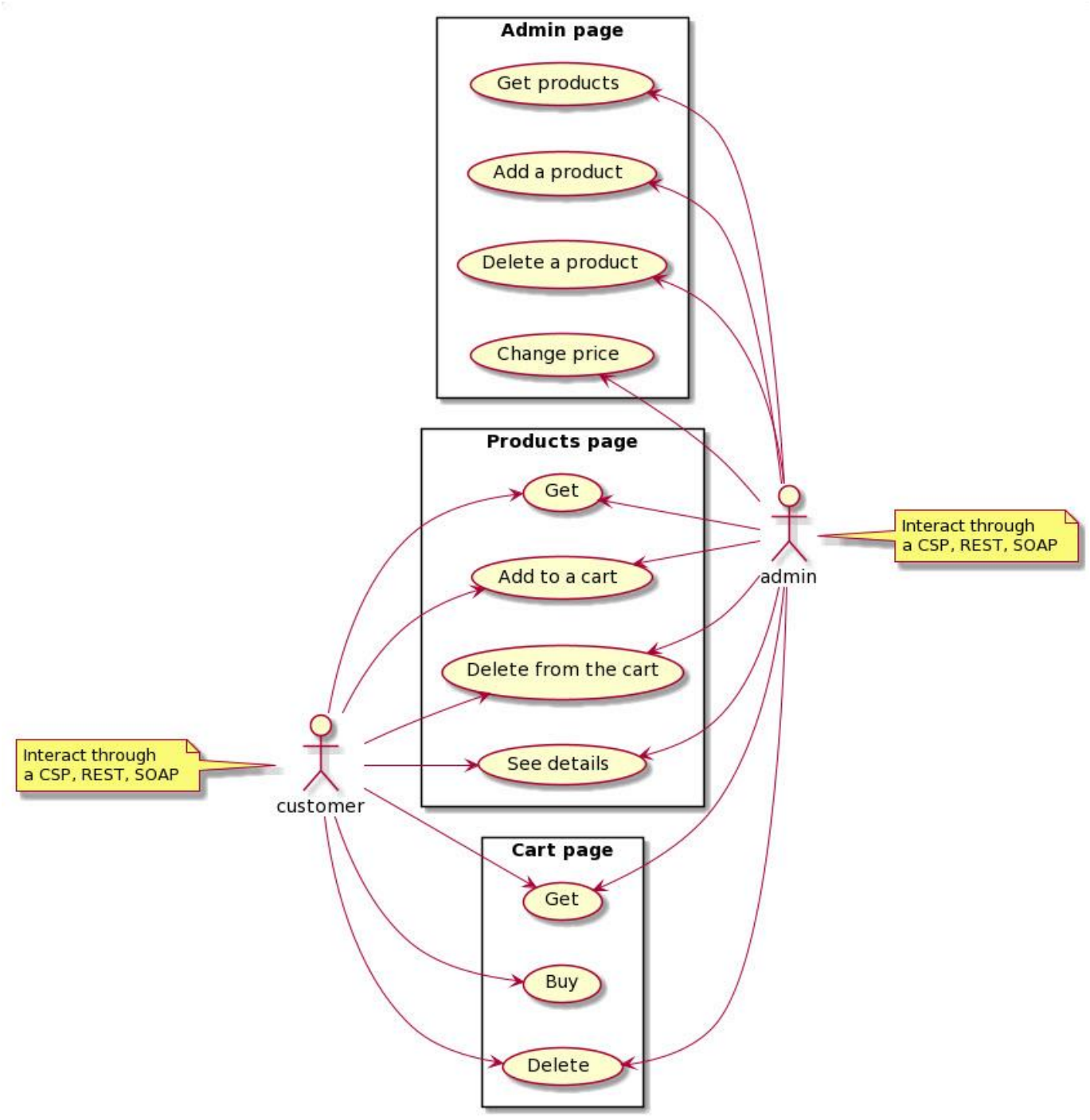
```
   usecase "Get products" as aget
   usecase "Add a product" as aadd
   usecase "Delete a product" as adelete
   usecase "Change price" as change_p
}
' admin page:
aget <-- admin
aadd <-- admin
adelete <-- admin
change_p <-- admin

' products page
get_products <-- admin
add <-- admin
delete_product <-- admin
details <-- admin

' cart page
get <-- admin
delete <-- admin

note left of user : Interact through \na CSP, REST, SOAP
note right of admin : Interact through \na CSP, REST, SOAP

@enduml
```



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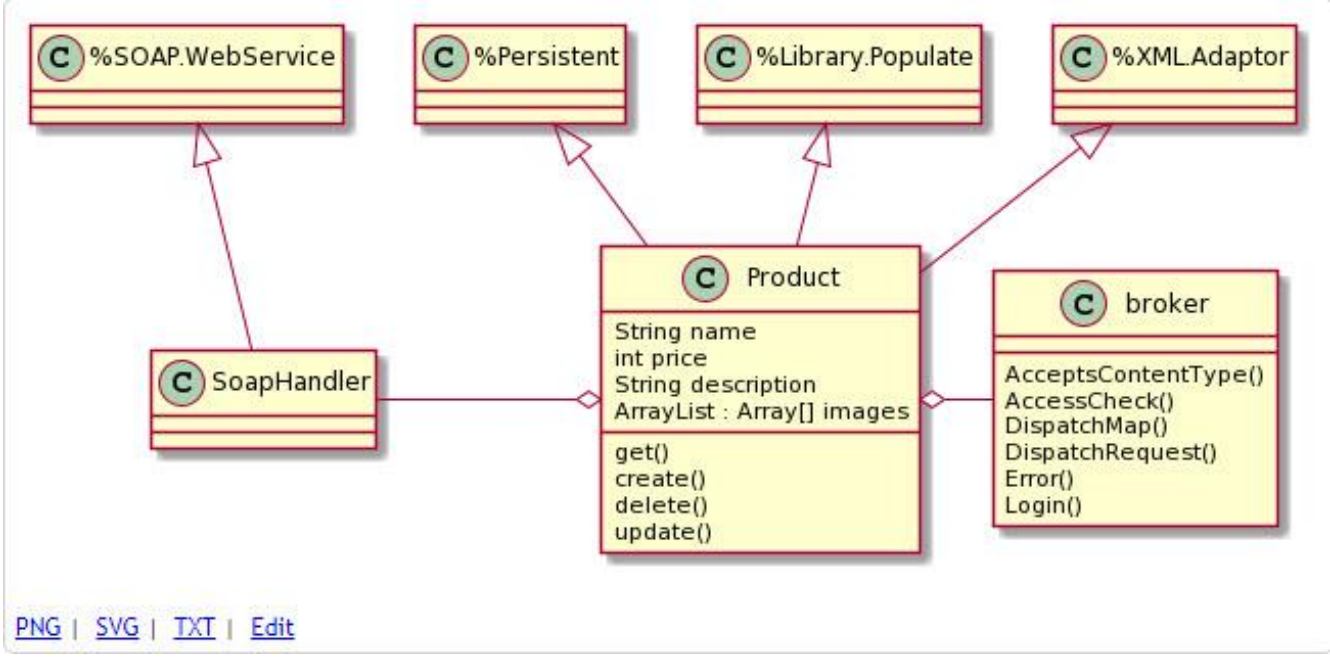
2. Class diagram

```
@startuml
class "%Persistent" as persistent
class "%Library.Populate" as library
class "%XML.Adaptor" as adaptor
class "%SOAP.WebService" as web_service
class "Product" as site {
   String name
   int price
   String description
   ArrayList : Array[] images
   get()
   create()
   delete()
   update()
}
class "SoapHandler" as soap_handler
class "broker" as broker{
   AcceptsContentType()
   AccessCheck()
   DispatchMap()
   DispatchRequest()
   Error()
   Login()

}

persistent <|-- site
library <|-- site
adaptor <|-- site
web_service <|-- soap_handler
soap_handler -o site
site o- broker

@enduml
```


%SOAP.WebService
%Persistent
%Library.Populate
%XML.Adaptor
Product
String name
int price
String description
ArrayList : Array[] images
get()
create()
delete()
update()
broker
AcceptsContentType()
AccessCheck()
DispatchMap()
DispatchRequest()
Error()
Login()
SoapHandler
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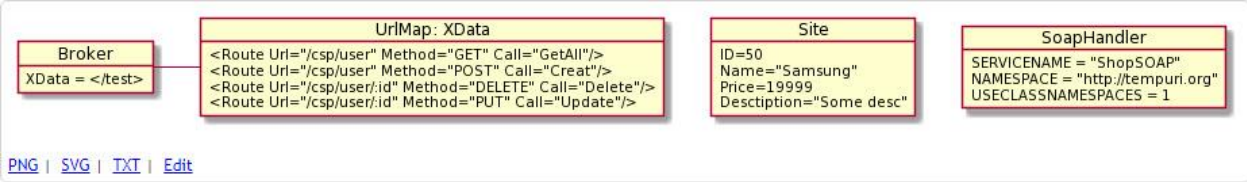
3. Diagram of objects

```
@startuml
object "Broker" as broker{
   XData = </test>
}

object "UrlMap: XData" as map{
   <Route Url="/csp/user" Method="GET" Call="GetAll"/>
   <Route Url="/csp/user" Method="POST" Call="Creat"/>
   <Route Url="/csp/user/:id" Method="DELETE" Call="Delete"/>
   <Route Url="/csp/user/:id" Method="PUT" Call="Update"/>
}

broker - map
object "Site" as site{
   ID=50
   Name="Samsung"
   Price=19999
   Desctiption="Some desc"
}

object "SoapHandler" as soap{
   SERVICENAME = "ShopSOAP"
   NAMESPACE = "http://tempuri.org"
   USECLASSNAMESPACES = 1
}
@enduml
```

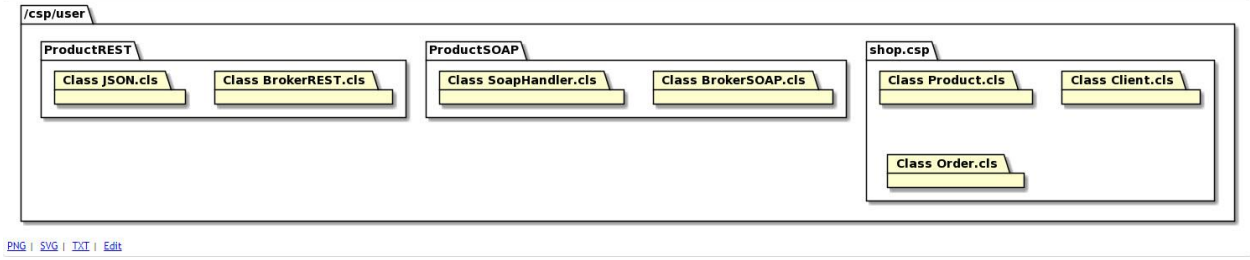


4. Diagram of packages

```
@startuml
package  "/csp/user" as site {
   package "shop.csp" {
      package "Class Product.cls"
      package "Class Client.cls"
      package "Class Order.cls"
   }

   package ProductSOAP as soap {
      package "Class BrokerSOAP.cls"
      package "Class SoapHandler.cls"
   }

   package ProductREST as rest {
      package "Class BrokerREST.cls"
      package "Class JSON.cls"
   }
}
@enduml
```



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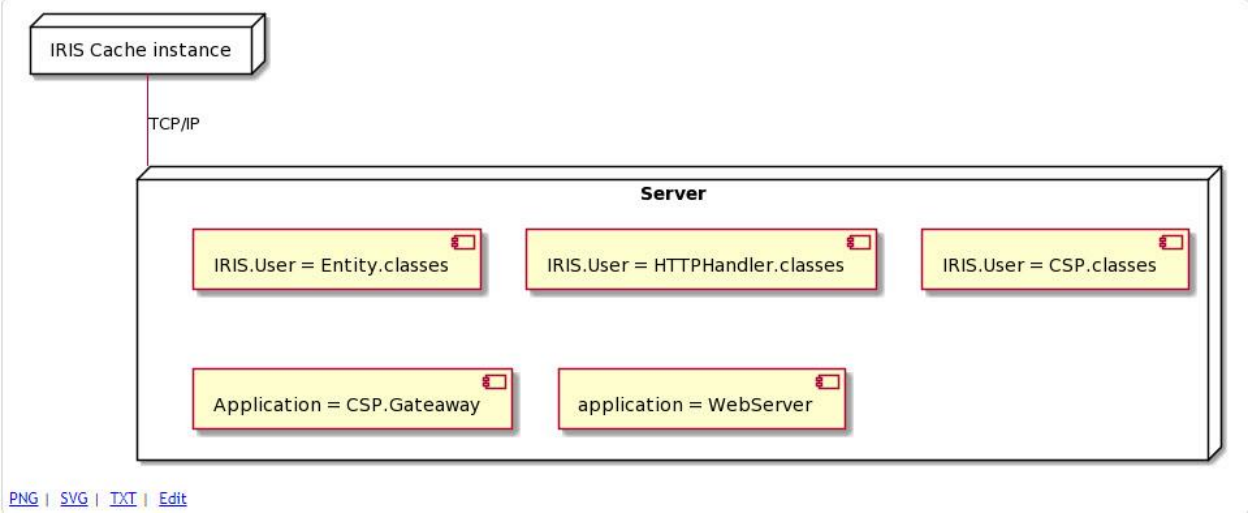
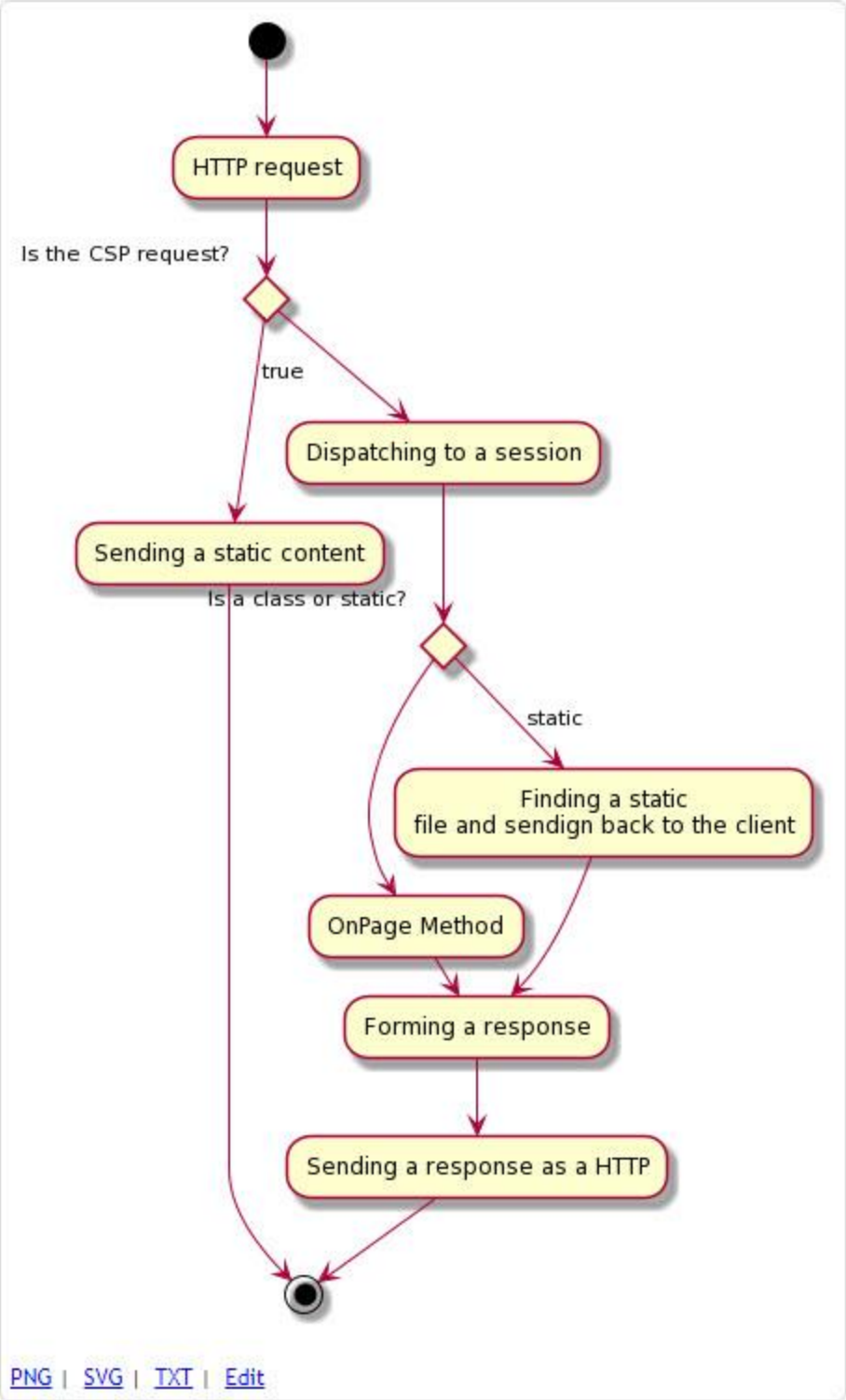
5. Deployment diagram

```
@startuml
node "IRIS Cache instance" as API{
}

node "Server" as server {
   [IRIS.User = Entity.classes]
   [IRIS.User = HTTPHandler.classes]
   [IRIS.User = CSP.classes]

   [Application = CSP.Gateaway]
   [application = WebServer]
}

API -- server : TCP/IP
@enduml
```



6. Activity chart

```
@startuml
(*) --> "HTTP request"

if "Is the CSP request?" then
   --> [true] "Sending a static content"
   --> (*)
else
   --> "Dispatching to a session"
   if "Is a class or static?" then
      --> "OnPage Method"
      -> "Forming a response"
   else
      --> [static] "Finding a static\nfile and sendign back to the client"
   endif
   --> "Forming a response"
   --> "Sending a response as a HTTP"
   --> (*)
endif
@enduml
```


HTTP request
Is the CSP request?
true
Dispatching to a session
Sending a static content
Is a class or static?
static
Finding a static
file and sendign back to the client
OnPage Method
Forming a response
Sending a response as a HTTP
PNG | SVG | TXT | Edit

7. Sequence diagram

```
@startuml
participant "User" as user
participant "Filter" as filter
participant "User client" as user_client
participant "CSP Gateway" as gateway
participant "CSP page" as csp
participant "REST Broker" as rest
participant "SoapHandler" as soap

activate user
user -> filter : HTTP request
activate filter
filter -> gateway : Sending as Gateway
deactivate filter
activate gateway

alt csp
gateway -> csp : Dispatching a shop.csp
activate csp
csp -> csp : Request processing
csp -> csp : Forming a response
csp --> gateway : response
deactivate csp

else rest
gateway -> rest : Dispatching a RESTBroker.cls
activate rest
rest -> rest : Request processing
rest -> rest : Forming a response
rest --> gateway : response
deactivate rest

else soap
gateway -> soap : Dispatching SoapHandler.cls
activate soap
soap -> soap : Request processing
soap -> soap : Forming a response
soap --> gateway : response
deactivate soap

end

gateway --> user : Sending a HTTP response
```

```
deactivate gateway
deactivate user

@enduml
```