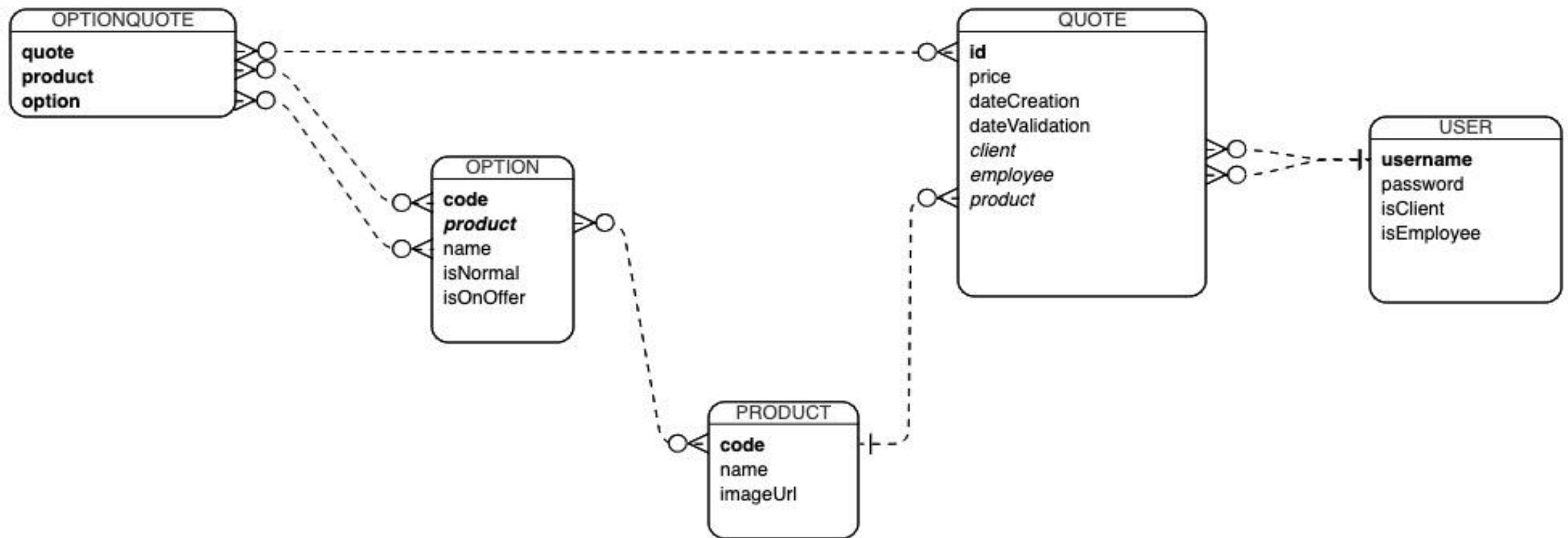# Progetto di Tecnologie informatiche per il Web

Appello di settembre – a.a. 2021/2022

TRACCIA 2

Database design

Progetto di Tecnologie Informatiche per il Web

OPTIONQUOTE
- **quote**
- **product**
- **option**

OPTION
- **code**
- *product*
- name
- isNormal
- isOnOffer

PRODUCT
- **code**
- name
- imageUrl

QUOTE
- **id**
- price
- dateCreation
- dateValidation
- *client*
- *employee*
- *product*

USER
- **username**
- password
- isClient
- isEmployee

```sql
CREATE TABLE `user` (
`username` VARCHAR(255) PRIMARY
KEY,
`password` VARCHAR(255) NOT NULL,
`isClient` BOOLEAN NOT NULL,
`isEmployee` BOOLEAN NOT NULL,
CHECK( `isClient` != `isEmployee`)
);

CREATE TABLE `product` (
`code` INT(127) PRIMARY KEY,
`name` VARCHAR(255) NOT NULL,
`imageUrl` VARCHAR(255)
);

CREATE TABLE `option` (
`code` INT(127) NOT NULL,
`product` INT(127) NOT NULL
REFERENCES  `product`(`code`)
            ON DELETE CASCADE
            ON UPDATE CASCADE,
`name` VARCHAR(255) NOT NULL,
`isNormal` BOOLEAN NOT NULL,
`isOnOffer` BOOLEAN NOT NULL,
PRIMARY KEY(`code`, `product`)
);
```

```sql
CREATE TABLE `quote` (

`id` INT(127) PRIMARY KEY AUTO_INCREMENT,
`price` NUMERIC(8,2),
`dateCreation` DATE NOT NULL,
`dateValidation` DATE,
`client` VARCHAR(255) NOT NULL REFERENCES
`user`(`username`)
                ON DELETE CASCADE
                ON UPDATE CASCADE,
`employee` VARCHAR(255) REFERENCES
`user`(`username`)
                ON DELETE SET NULL
                ON UPDATE CASCADE,
`product` INT(127) NOT NULL REFERENCES
`product`(`code`)
                ON DELETE CASCADE
                ON UPDATE CASCADE,
CHECK(`client` != `employee`)
);

CREATE TABLE `optionQuote` (

`quote` INT(127) NOT NULL REFERENCES
`quote`(`id`)
                ON DELETE CASCADE
                ON UPDATE CASCADE,
`product` INT(127) NOT NULL,
`option` INT(127) NOT NULL,
PRIMARY KEY(`quote`, `product`, `option`),
FOREIGN KEY(`option`, `product`) REFERENCES
`option`(`code`, `product`)
                ON DELETE CASCADE
                ON UPDATE CASCADE
);
```
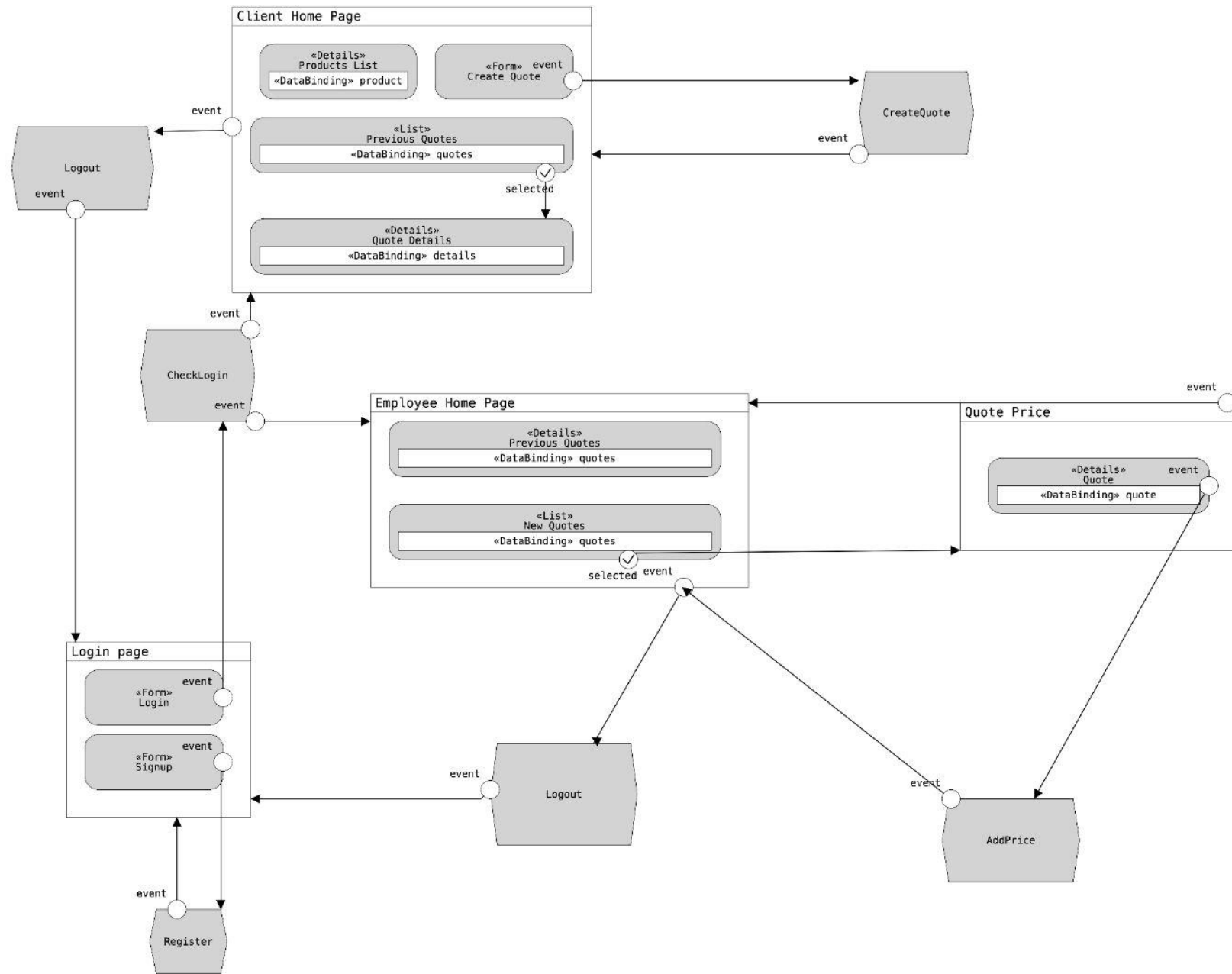
Application design (IFML)

Progetto di Tecnologie Informatiche per il Web

Componenti

Progetto di Tecnologie Informatiche per il Web

- Model objects (Beans)
  - User
  - Quote
  - Option
  - Product
- Data Access Objects (Classes)
  - UserDAO
    - checkCredentials
    - register
  - ProductDAO
    - getProductsList
    - getProductById

- QuoteDAO
  - getQuotesByUser
  - getUnassignedQuotes
  - addNewQuote
  - addPrice
- OptionDAO
  - getOptionsByProduct
  - getOptionsByQuote

- Controllers (servlets)
  - Login
  - Register
  - GetHomePage
  - GetProductsList
  - ChooseProduct
  - AddOption
  - CreateQuote
  - GetQuoteDetails
  - AddPrice
  - Logout
  - ErrorHandler

- Views (Templates)
  - Login.html
  - ClientHome.html
  - EmployeeHome.html
  - QuotePrice.html
  - ErrorPage.html

- La connessione al DB è creata da utils.ConnectionHandler

- La cartella IMAGES contiene le risorse .jpg

Diagrammi di sequenza e eventi

Progetto di Tecnologie Informatiche per il Web

Sequence diagram with lifelines: GetHomePage, session, QuoteDAO, ProductDAO, OptionDAO, TemplateEngine

@WebServlet("/Home")

forward → GetHomePage

GetHomePage → session: getAttribute(user)
session → GetHomePage: user

GetHomePage → QuoteDAO: getQuotesByUser(user)
QuoteDAO → QuoteDAO: setClientAndEmployee(user)
QuoteDAO → ProductDAO: setProduct()
ProductDAO → QuoteDAO: product
QuoteDAO → OptionDAO: setOptions()
OptionDAO → QuoteDAO: ArrayList<Option> options
QuoteDAO → GetHomePage: ArrayList<Quote> userQuotes

GetHomePage → session: setAttribute(userQuotes)