Cairo University Faculty of Computers and Artificial Intelligence



**Advanced SE**

**Software design specification document**

**2022**

**Project Team**

|  |  |  |
| --- | --- | --- |
| **ID** | **Name** | **Email** |
| 20201134 | Fatma Mahmoud Ramadan | Mahmoudfatma3060@gmail.com |
| 20201045 | Basmalla Magdy Mohamed | basmallamagdy155@gmail.com |
| 20201014 | Esraa Osama Mohamed | eo6344848@gmail.com |

Contents

[Instructions[To be removed] 2](#_Toc120811426)

[Class diagram design 2](#_Toc120811427)

[Class diagram Explanation 3](#_Toc120811428)

[Sequence diagram design 3](#_Toc120811429)

[Github repository link 4](#_Toc120811430)

# Class diagram design

**A picture containing diagram

Description automatically generated**

# Class diagram Explanation

**Strategy pattern:**

1. **payment behavior**

**Participating classes: Payment\_behavior, Cash, Credit\_card, Wallet**

**Justification:**

**we can add new payment behaviors without modifying**

**any of our existing behavior classes or touching**

**any of the Service classes that use payment behaviors.**

**2- offers(discounts)**

**Participating classes: Offer, Overall, Specific**

**Justification:**

**we can add new offers without modifying**

**any of our existing classes.**

* **Factory pattern:**

**1-Participating classes: Service, Service Factory, Mobile\_recharge, Internet\_payment, Landline, Donation**

**Justification:**

**to let subclasses decide which service to**

**instantiate.**

1. **Service provider**
2. **Participating classes: Service, Service Provider, We, Vodafone, Etisalat, Schools, NGOs, Monthly ….**

**Justification:**

**to let subclasses decide which service provider to**

**instantiate.**

# Sequence diagram design

Diagram

Description automatically generated

Diagram

Description automatically generated with medium confidence

Diagram

Description automatically generated

Calendar

Description automatically generatedCalendar

Description automatically generated

A picture containing chart

Description automatically generated

# Github repository link

**https://github.com/FatmaMahmoudR/SoftwareProject.git**