Class structure

# Main idea

We wanted to make the design scalable, so we created a **MobilePhone** class that represents the device memory and holds a polymorphic list of applications (any class that implements the **Applicable** interface) that could grow and shrink without changing the way the system operates.

Like in a real phone, **MobilePhone** has an **OperatingSystem**, which is an application that manages all the other applications. Its *apply()* method is responsible of displaying the main menu, and its *printApp()* method prints the list of currently installed applications.

The **Contact** list is held by **MobilePhone**, and its reference is passed to the constructors of the applications that need it.

# The classes and interfaces

## Applicable - Interface

Has two methodes:

* *apply(****Scanner*** *s)* displays interactive menu, receives input from *s*, calls private methods accordingly and prints the outputs to the screen.
* *printApp()*

## MobilePhone

Has:

* **ArrayList** of **Contact**s
* **ArrayList** of **Applicable**s
* **scanner** *s*.
* inner-class **OperatingSystem**.

## MobilePhone.OperatingSystem

Implements **Applicable**. In charge of managing all the other **Applicable**s.

## Contact

Has:

* **String** *name*
* **Int** *phonenumber*
* **ArrayList** of **String**s *chat*.

## PhonebookApp

Implements **Applicable**. In charge of managing the contact list. Updates **CalendarApp** whenever a Contact is removed from list. Holds a reference to the **Contact**s list.

## SmsApp

Implements **Applicable**. In charge of managing **chat**s. Holds a reference to the **Contact**s list.

## AbstractCalendarEvent – Abstract

Abstract class of a calendar event.  
Has:

* **Date** *date*
* **Int** *duration* (in minutes).

## MeetingCalendarEvent

extends **AbstractCalendarEvent**.  
Has:

* **Contact** *contact*

## SimpleCalendarEvent

extends **AbstractCalendarEvent**.  
Has:

* **String** *description*

## CalendarApp

Implements **Applicable**.  
In charge of managing calendar events.  
Has:

* sorted **ArrayList** of **AbstractCalendarEvent**s *eventsList*.

Holds a reference to the **Contact**s list.

## Media - Abstract

Abstract class of media files.  
Has:

* **String** *label*
* **int** *length* (in minutes).

has an abstract method *play()*.

## AudioMedia

Extends **AudioMedia**.  
Defines method *play().*

## VideoMedia

Extends **VideoMedia**.  
Defines method *play().*

## MediaPlayerApp

Implements **Applicable**.  
In charge of playing and managing **Media** files.  
Has:

* **ArrayList** of **Media**