

# 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 **Contacts**
- **ArrayList** of **Applicables**
- **scanner s**.
- inner-class **OperatingSystem**.

### MobilePhone.OperatingSystem

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

### Contact

Has:

- **String** *name*
- **Int** *phonenummer*
- **ArrayList** of **Strings** *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 **Contacts** list.

### SmsApp

Implements **Applicable**. In charge of managing **chats**. Holds a reference to the **Contacts** 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 **AbstractCalendarEvents** *eventsList*.

Holds a reference to the **Contacts** 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**