```
START main

    INIT app

    Call app.run()

END main


FUNCTION app constructor

    INIT Scanner sc

    INIT users, avialableApps

    CALL loadUsers()

    CALL loadApps()

ENDFUNCTION


FUNCTION app loadUsers

    BEGIN

        INIT File(users.txt)

        WHILE files has next line

            Line = nextLine()

            CALL createUser(line)

        ENDWHILE

    EXCEPTION

        WHEN filenot found

            Throw err

    END

ENDFUNCTION
```

```
FUNCTION app loadApp

    BEGIN

        INIT File(app.txt)

        WHILE files has next line

            Month = nextInt()

            Day = nextInt()

            Year = nextInt()

            Desc = nextLine()

            CALL createApp(Desc, Month, Day, Year)

        ENDWHILE

    EXCEPTION

        WHEN filenot found

            Throw err

    END

ENDFUNCTION


FUNCTION app createUser

    CALL users.add(new User(name, new Service[])

ENDFUNCTION


FUNCTION app createApp

    CALL avialableApps.add(new App(Desc, Month, Day, Year)

ENDFUNCTION
```

```
FUNCTION app printMenu

    OUT "Selected User"

    IF selected EQUALS none THEN

        OUT "none"

    ELSE

        OUT selected.name

    ENDIF

    OUT "1. User Menu"

    OUT "2. Schedule an appointment"

    OUT "3. Exit"

ENDFUNCTION


FUNCTION app selectUser

    IF users.size() EQUALS 0 THEN

        RETURN

    ENDIF

    FOREACH user IN Users THEN

        OUT user.name

    ENDFOREACH

    OUT "Select a user"

    INPUT user

ENDFUNCTION
```

```
FUNCTION app selectApp

    IF avialableApps.size() EQUALS 0 THEN

        RETURN

    ENDIF

    CALL printApp

    OUT "Select an app."

    INPUT app


ENDFUNCTION


FUNCTION app printApp

    FOREACH app IN avialableAppsTHEN

        CALL app.print()

    ENDFOREACH

ENDFUNCTION

FUNCTION app userMenu

    INIT isRunning

    WHILE isRunning

        OUT "1. Select a User"

        OUT "2. Create a User"

        OUT "3. View Appointments/Services"

        OUT "4. Return"

        INPUT choice

        CASE choice of
```

```
                    1: CALL selectUser

                    2: CALL createUser

                    3: CALL printApp

                    4: isRunning = False

            OTHERS

                    OUT "Not a Valid option"

        ENDWHILE

ENDFUNCTION


FUNCTION app appointmentMenu

        INIT isRunning

        WHILE isRunning

            OUT "1. Select a service"

            OUT "4. Return"

            INPUT choice

            CASE choice of

                    1: CALL selectAppointment

                    2: isRunning = False

            OTHERS

                    OUT "Not a Valid option"

        ENDWHILE

ENDFUNCTION


FUNCTION app run
```

```
        INIT isRunning

    WHILE isRunning

            CALL printMenu

            INPUT choice

            CASE choice of

                    1: CALL userMenu

                    2: CALL appMenu

                    3: isRunning = False

            OTHERS

                    OUT "Not a Valid option"

        ENDWHILE

ENDFUNCTION




FUNCTION Service constructor

            INIT month

            INIT day

            INIT year

END FUNCTION


FUNCTION Service getMonth

    RETURN month

ENDFUNCTION
```

```
FUNCTION Service getDay

        RETURN day

ENDFUNCTION


FUNCTION Service getYear

        RETURN year

ENDFUNCTION


FUNCTION Appointment constructor

        CALL super(month, day, year)

        INIT desc

ENDFUNCTION


FUNCTION Appointment getDesc

        RETURN desc

ENDFUNCTION


FUNCTION Appointment print

        OUT month "/" day "/" year "\n\t" desc

ENDFUNCTION


FUNCTION User constructor
```

```
        INIT name, services

ENDFUNCTION


FUNCTION User getName

        RETURN name

ENDFUNCTION


FUNCTION User getService

        RETURN services at n

ENDFUNCTION


FUNCTION User removeService

        CALL service.remove(n)

ENDFUNCTION


FUNCTION User addService

        CALL service.add(app)

ENDFUNCTION


FUNCTION User hasService

        RETURN service.size() GREATER THAN 0

ENDFUNCTION
```