



HEART RATE ADJUSTER

Technical Documentation

GROUP #12

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com.example.heartrateadjuster

Class MainActivity

java.lang.Object

Activity

com.example.heartrateadjuster.MainActivity

```
public class MainActivity
extends Activity
```

The main screen of the application. Initializes chestStrap and audioSystem objects and sets up the UI with callbacks.

Field Summary

Fields

Modifier and Type	Field and Description
IAudioSystem	audioSystem Audio system object, instantiated as a AudioSystemFake
IHeartRateDevice	chestStrap Chest strap object, instantiated as a ChestStrapFake

Constructor Summary

Constructors

Constructor and Description
MainActivity()

Method Summary

Methods

Modifier and Type	Method and Description
protected void	onCreate (Bundle savedInstanceState) Android fundamental method, used to instantiate all UI elements with callbacks.
boolean	onCreateOptionsMenu (Menu menu)

boolean `onOptionsItemSelected`(MenuItem item)

Methods inherited from class java.lang.Object

`clone`, `equals`, `finalize`, `getClass`, `hashCode`, `notify`, `notifyAll`, `toString`, `wait`, `wait`, `wait`

Field Detail

audioSystem

`public IAudioSystem audioSystem`

Audio system object, instantiated as a `AudioSystemFake`

chestStrap

`public IHeartRateDevice chestStrap`

Chest strap object, instantiated as a `ChestStrapFake`

Constructor Detail

MainActivity

`public MainActivity()`

Method Detail

onCreate

`protected void onCreate(Bundle savedInstanceState)`

Android fundamental method, used to instantiate all UI elements with callbacks.

Parameters:

`savedInstanceState` -

onCreateOptionsMenu

```
public boolean onCreateOptionsMenu(Menu menu)
```

onOptionsItemSelected

```
public boolean onOptionsItemSelected(MenuItem item)
```

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Interface **IAudioSystem**

All Known Implementing Classes:

[AudioSystemFake](#)

```
public interface IAudioSystem
```

Interface to the Audio System.

Method Summary

Methods

Modifier and Type	Method and Description
java.lang.String	getNowPlaying() Gets currently playing track.
void	setTargetHeartRate (int target) Sets the heart rate to be targeted by the system.
void	skipTrack() Skips the current track, begins playback of next.
void	togglePlayback() Toggles between playing and not playing.

Method Detail

getNowPlaying

```
java.lang.String getNowPlaying()
```

Gets currently playing track.

Returns:

The title of the currently playing track.

setTargetHeartRate

```
void setTargetHeartRate(int target)
```

Sets the heart rate to be targeted by the system.

Parameters:

target - The new target

skipTrack

```
void skipTrack()
```

Skips the current track, begins playback of next.

togglePlayback

```
void togglePlayback()
```

Toggles between playing and not playing.

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Interface IHeartRateDevice

All Known Implementing Classes:

ChestStrapFake

public interface **IHeartRateDevice**

Interface with the Chest Strap.

Method Summary

Methods

Modifier and Type	Method and Description
int	getCurrentHeartRate() Gets current heart rate from device.

Method Detail

getCurrentHeartRate

int getCurrentHeartRate()

Gets current heart rate from device.

Returns:

Current heart rate.

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Class AudioSystemFake

java.lang.Object

com.example.heartrateadjuster.AudioSystemFake

All Implemented Interfaces:

IAudioSystem

```
public class AudioSystemFake
extends java.lang.Object
implements IAudioSystem
```

Implementation of [IAudioSystem](#) for faking Audio System with UI element.

Constructor Summary

Constructors

Constructor and Description

[AudioSystemFake\(\)](#)

Method Summary

Methods

Modifier and Type	Method and Description
java.lang.String	getNowPlaying() Returns system time for a unique String.
void	setTargetHeartRate(int target) Sets the heart rate to be targeted by the system.
void	skipTrack() Skips the current track, begins playback of next.
void	togglePlayback() Toggles between playing and not playing.

Methods inherited from class java.lang.Object

clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait

Constructor Detail

AudioSystemFake

```
public AudioSystemFake()
```

Method Detail

getNowPlaying

```
public java.lang.String getNowPlaying()
```

Returns system time for a unique String.

Specified by:

`getNowPlaying` in interface `IAudioSystem`

Returns:

Current system time as String.

setTargetHeartRate

```
public void setTargetHeartRate(int target)
```

Description copied from interface: `IAudioSystem`

Sets the heart rate to be targeted by the system.

Specified by:

`setTargetHeartRate` in interface `IAudioSystem`

Parameters:

target - The new target

skipTrack

```
public void skipTrack()
```

Description copied from interface: `IAudioSystem`

Skips the current track, begins playback of next.

Specified by:

`skipTrack` in interface `IAudioSystem`

togglePlayback

```
public void togglePlayback()
```

Description copied from interface: `IAudioSystem`

Toggles between playing and not playing.

Specified by:

`togglePlayback` in interface `IAudioSystem`

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Class ChestStrapFake

java.lang.Object

com.example.heartrateadjuster.ChestStrapFake

All Implemented Interfaces:

IHeartRateDevice

```
public class ChestStrapFake
extends java.lang.Object
implements IHeartRateDevice
```

Implementation of [IHeartRateDevice](#) for faking chest strap data with UI element.

Constructor Summary

Constructors

Constructor and Description

ChestStrapFake()

Method Summary

Methods

Modifier and Type	Method and Description
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int	getCurrentHeartRate() Gets the internally stored heart rate measurement.
void	setCurrentHeartRate(int heartrate) Sets the internally stored heart rate measurement.

Methods inherited from class java.lang.Object

clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait

Constructor Detail

ChestStrapFake

```
public ChestStrapFake()
```

Method Detail

getCurrentHeartRate

```
public int getCurrentHeartRate()
```

Gets the internally stored heart rate measurement.

Specified by:

[getCurrentHeartRate](#) in interface [IHeartRateDevice](#)

Returns:

The internally stored heart rate measurement.

setCurrentHeartRate

```
public void setCurrentHeartRate(int heartrate)
```

Sets the internally stored heart rate measurement.

Parameters:

heartrate - The new heart rate.

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Summary: [Nested](#) | [Field](#) | [Constr](#) | [Method](#) [Detail: Field](#) | [Constr](#) | [Method](#)