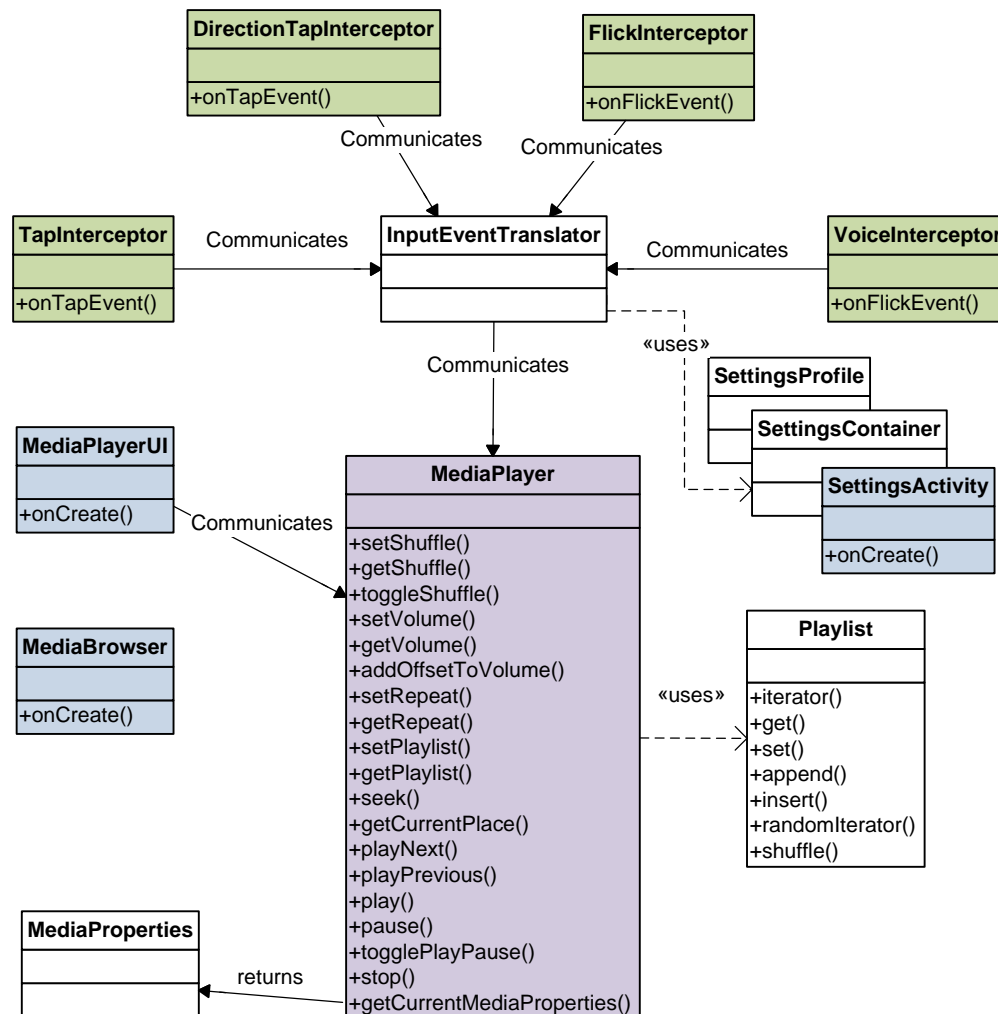


# Project Architecture



## MediaPlayer

Thread/Activity?

Plays a list of files from a current playlist.

Allows control via an interface (or events?):

- Shuffle
- Volume control
- Repeat (one/all/none)
- Get playlist
- Set playlist

## Playlist

Stores a list of FileDescriptors or paths to media files.

Allows random access, iteration, shuffle and set as favorite/priority playlist (will show this somehow or put them at the top of the playlists list) - maybe allow also tagging media this way?

## MediaProperties

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Represents a playable entity - usually an audio file, but in the future might be video, picture or something else.

For audio contains all the possible information:

- Artist, album, track number, track name etc.
- Length, sample rate etc.
- Other tags.

## SettingsProfile

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A profile contains a list of settings.

That can be used to set different settings for different activities the user participates in. For example, when driving the user might want a tap to pause/play and while running he might want the tap to play the next song.

Maybe it will allow you to assign a default playlist, file or priority playlists for this profile (for example, if you'd like a specific playlist for Jogging and another for Driving).

## SettingsContainer

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Contains various settings:

- last playback options (shuffle, repeat etc.)
- tap configurations - mapping of physical configurations to MediaPlayer actions.
- voice configurations

\* Must allow to set each input, that works when device is locked, to make it not work when the device is locked - sometimes you really want the device to be locked...

Some settings might be set to "unspecified" meaning it will use the default settings (this can also be configured but in the default there is no "unspecified" option)

## SettingsActivity

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Allows setting the settings in the SettingsContainer :)

Also allows managing profiles (saved settings - presets)

I see the mapping of actions to taps/gestures like a controls mapping screen in computer games where you could choose from a list of supported taps/gestures/keys and maybe map several input ways for the same function.

## MediaBrowser

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An activity that allows browsing the media files in the device (or maybe on the user's profile on our online store via the internet).

Might be an abstract class to allow different browsing modes - records browsing (a la iPhone), list browsing or online shop browsing (like iTunes or something).

## MediaPlayerUI

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The interface of the MediaPlayer - will allow controlling it using buttons and other GUI elements.

## TapInterceptor

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Uses the sensors to identify taps (even when the device is locked).

Will raise an event when it registers a tap, but how will it communicate with other elements?

## DirectionTapInterceptor

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Uses the sensors to identify taps on specific sides/areas of the device (even when the device is locked).

Will raise an event when it registers a tap, but how will it communicate with other elements?

Will pass the direction/location information in the event somehow.

## FlickInterceptor

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Uses the touch event or any other way to identify flicks and their direction (even when the device is locked? Maybe with using the sensors...).

Will raise an event when it registers a flick, but how will it communicate with other elements?

Will pass the direction/location information in the event somehow.

## VoiceInterceptor

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Uses the speaker and voice recognition(?) to identify special user recorded commands to control the device (even when the device is locked?).

Will raise an event when it registers a command, but how will it communicate with other elements?

Will pass the command information in the event somehow.

## InputEventTranslator

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Receives all the input from the interceptors (also keyboard events or other available device buttons) and translates them using the settings to MediaPlayer actions and communicates those requests to the MediaPlayer.

All interceptors will implement the same interface and will be registered somehow to communicate with the input translator. They will declare what kind of input they intercept so it could appear in the settings.

# Development Plan

	Task Name	Duration	Start	Finish	Resource
1	<b>- Research</b>	<b>2 days</b>	<b>Sun 5/30/10</b>	<b>Mon 5/31/10</b>	
2	what actions are possible when device is locked?	1 day	Sun 5/30/10	Sun 5/30/10	Opher
3	What kinds of physical input can we intercept?	2 days	Sun 5/30/10	Mon 5/31/10	Opher
4	POC - Intercept physical input	3 days	Wed 6/2/10	Sun 6/6/10	Opher
5	DEADLINE: Project alpha	0 days	Thu 6/17/10	Thu 6/17/10	
6	<b>- Software Design</b>	<b>7 days</b>	<b>Sun 5/30/10</b>	<b>Mon 6/7/10</b>	
7	Components communication design	1 hr	Sun 5/30/10	Sun 5/30/10	Or
8	Where files are stored? Media and configuration	1 hr	Sun 5/30/10	Sun 5/30/10	Or
9	Decide on desired functionality	3 hrs	Sun 5/30/10	Sun 5/30/10	Or
10	Wrap up software design	1 day	Mon 6/7/10	Mon 6/7/10	Or
11	<b>- UI Design</b>	<b>3 days</b>	<b>Mon 6/7/10</b>	<b>Thu 6/10/10</b>	
12	Design UI + paper prototype	1 day	Mon 6/7/10	Mon 6/7/10	Opher
13	DEADLINE: Project scenarios/flows + Paper prototypes	0 days	Thu 6/10/10	Thu 6/10/10	
14	Ready to implement!	0 days	Thu 6/10/10	Thu 6/10/10	
15	<b>- Implementation</b>	<b>43.8 days</b>	<b>Thu 6/10/10</b>	<b>Tue 8/10/10</b>	
16	MediaPlayer - critical functions only	8 hrs	Thu 6/10/10	Thu 6/10/10	Or
17	Playlist - critical functions only	5 hrs	Sun 7/11/10	Sun 7/11/10	Opher
18	MediaProperties - only song title and media duration	5 hrs	Sun 7/11/10	Sun 7/11/10	Opher
19	MediaPlayerUI	4 days	Sun 7/11/10	Thu 7/15/10	Opher
20	Working media player	0 days	Thu 7/15/10	Thu 7/15/10	
21	MediaBrowser - only ABC browser	3 days	Thu 7/15/10	Tue 7/20/10	Opher
22	SettingsContainer - app using only default settings	8 hrs	Tue 7/20/10	Tue 7/20/10	Or
23	KeyboardInputInterceptor	8 hrs	Tue 7/20/10	Tue 7/20/10	Or
24	InputEventTranslator	1 day	Tue 7/20/10	Wed 7/21/10	Or
25	Statically configured media player	0 days	Wed 7/21/10	Wed 7/21/10	
26	TapInterceptor	2 days	Tue 7/20/10	Thu 7/22/10	Opher
27	DirectionTapInterceptor	2 days	Thu 7/22/10	Mon 7/26/10	Opher
28	FlickInterceptor	2 days	Mon 7/26/10	Wed 7/28/10	Opher
29	VoiceInterceptor	5 days	Tue 7/20/10	Tue 7/27/10	Nice-to-h
30	Physical input media player!	0 days	Thu 7/22/10	Thu 7/22/10	
31	SettingsProfile - already include 2 profiles: Driving & Jogging	2 days	Wed 7/21/10	Sun 7/25/10	Or
32	SettingsActivity	4 days	Sun 7/25/10	Thu 7/29/10	Or
33	Configurable media player	0 days	Thu 7/29/10	Thu 7/29/10	
34	Complete MediaPlayer	1 day	Thu 7/29/10	Sun 8/1/10	Or
35	Complete Playlist	1 day	Sun 8/1/10	Mon 8/2/10	Or
36	Almost completely functional media player!	0 days	Mon 8/2/10	Mon 8/2/10	
37	Barely marketable version	0 days	Mon 8/2/10	Mon 8/2/10	
38	Complete MediaProperties - including integration with UI (title display, browsing...)	3 days	Thu 7/29/10	Tue 8/3/10	Opher
39	Nice marketable version	0 days	Tue 8/3/10	Tue 8/3/10	
40	Complete all nice-to-have features	1 wk	Tue 8/3/10	Tue 8/10/10	Or
41	Prepare presentation	2 days	Tue 8/10/10	Thu 8/12/10	Opher,Or
42	DEADLINE: Project presentation	0 days	Wed 9/1/10	Wed 9/1/10	

