Use of GPIOs
Application note

Summary

1. Introduction

This document describes the procedure to use GPIOs with G3 version of gekkota and Screen Composer.

Keep in mind that it is discouraged to unplug the jack GPIO when the media player is switched on, because it can cause damage to media player.

2. Prerequisites

The following conditions must be met:
- Screen Composer G3 (V3.10.18 or more).
- Innes media player with Gekkota G3 (V3.11.10 or more).
- Innes media player with GPIO(s).

3. GPIOs configuration

An auto-configuration script permits to configure GPIOs for different media players models.

The download of this script is described in the document « Use of auto-configuration feature – application note ».

This auto-configuration script will always be specific to a media player model; each model doesn't have the same GPIOs.

The platform type (=media player model) has to be defined at the beginning of the script; for example, if you use a DMB300 platform, you need to comment all the other platforms by placing "//" at the start of their lines.

```
//const Platform = "DMC200";
const Platform = "DMB300";
```

The different possible configurations are described in the script, and the user choice is done by un-commenting the wanted configuration, and commenting the other ones. For example, for GPIO1, the following configurations are possible:
- GPIO1 in input with a debouncing filter at 100ms
- GPIO1 in input without debouncing filter
- GPIO1 in input with data inversion and debouncing filter at 100ms
- GPIO1 in input with data inversion and without debouncing filter
- GPIO1 in output
- GPIO1 not activated

In the le script, configurations are given as below; for example, if you want to have the GPIO1 in output, you have to comment/un-comment like that:

```
// GPIO1 : uncomment one line below corresponding to your choice
//setPhoenixGPIO("1", false, "in",  100000000); // GPIO1 : Input, Debouncing 100ms
//setPhoenixGPIO("1", false, "in",  0);          // GPIO1 : Input, No Debouncing
//setPhoenixGPIO("1", true,  "in",  100000000); // GPIO1 : Input, Invert, Debouncing 100ms
//setPhoenixGPIO("1", true,  "in",  0);          // GPIO1 : Input, Invert, No Debouncing
setPhoenixGPIO("1", false, "out", 0);          // GPIO1 : Output
//setPhoenixGPIO("1", false, "disable", 0);      // GPIO1 : Disable
```

4. Screen Composer G3 configuration

4.1. Media player selection

Firstly, you have to create or open a Screen Composer project – see the documentation of the configured app to have further explanations. Then, go to Setting/Preferences/Players, select the media player to configure by « auto detection » or by manually adding it. The option Setup/Preferences/Publication « Publish to players » must be selected to be able to publish.
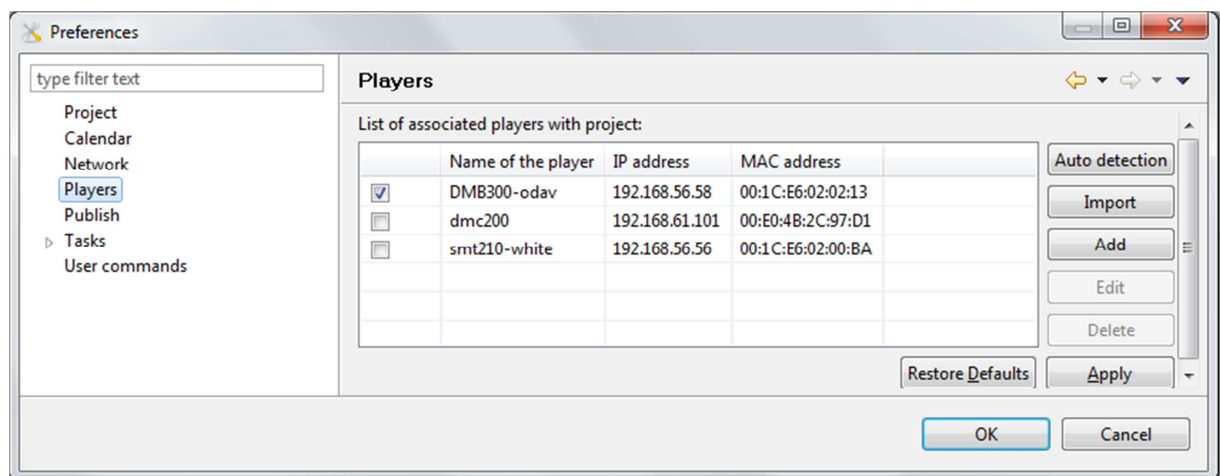
4.2. GPIOs use

This part describes how to use GPIOS when Screen Composer is used with app Playzilla. If Screen Composer is used with another app, please refer to the documentation of this app.

A GPIO use is very simple: select the tab « My peripherals »; if you can't see it, go to Setup/preferences/display/My peripherals. You can see « Phoenix gpio » or « Jack35 gpio » according to the connector used on the media player (please refer to the datasheet of your media player concerning the GPIOs possibilities).

To use a gpio, clic on the wanted gpio (for example, « Phoenix gpio/Input 1 ») in the tab « My peripherals », drag and drop it in the tab « Events» on the right. The following screenshot shows phoenix gpio1 and 4 used on a DMC200:
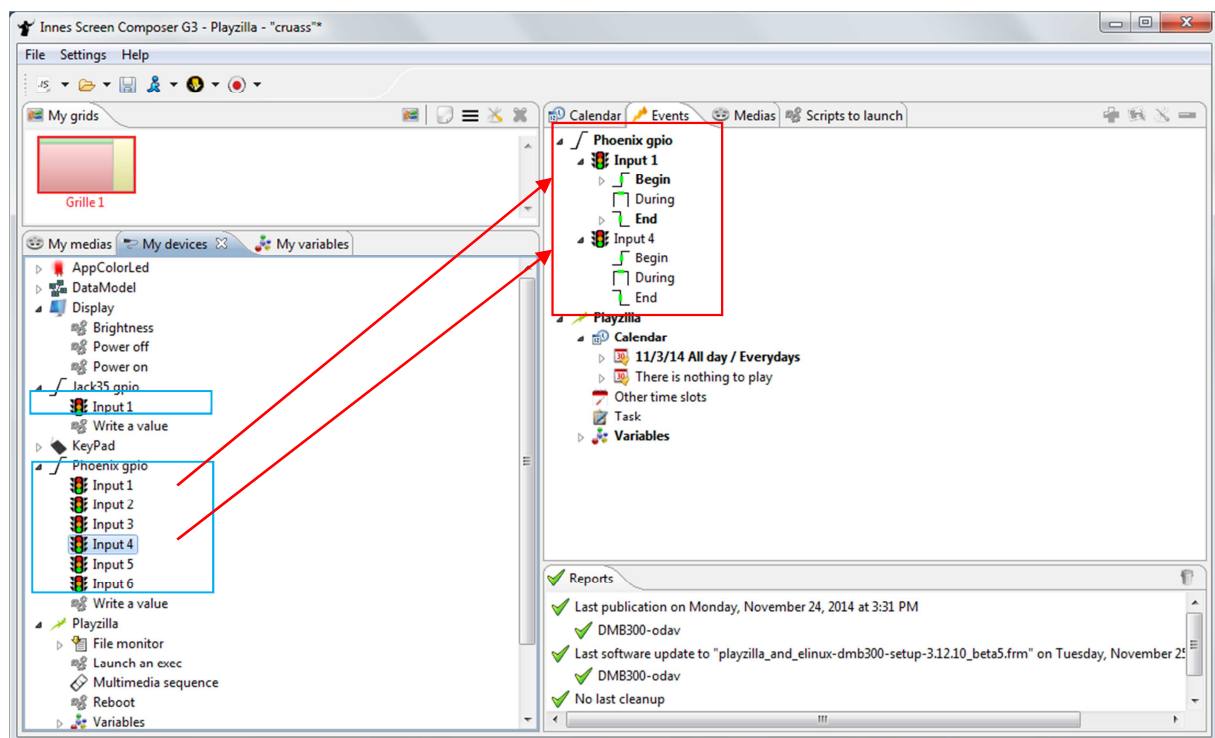
Once gpios added, you have to add the associated action. For it, it is the same principle: drag and drop the action towards the event tab. For a gpio declared in input, there are 2 possible states: 0 or 1. 3 transitions are possible: start (pass from 0 to 1), during (state=1), end (pass from 1 to 0). You can associate different events to each transition, for example modify the display brightness, switch off the display, play medias, …

To write on an output gpio, use the action « Write a value », available in the tab gpio, and drag and drop it to the transition of an event.

To finish, and apply to the media player, clic on « Publish to players ».

Example:

We want to use phoenix gpio4 in input, and gpio2 in output. In input, the transition from 0 to 1 will modify the display brightness (to 50%), and the brightness go to 100% when gpio4 goes from 1 to 0. In output, the gpio2 will pass to 1 each Friday between 12h and 14h, and 0 the rest of time: