

누구나 할 수 있는
Gear Application 개발, 도전!

EFL 한국커뮤니티
김원기

Application build-up in 30 Minutes

a.k.a **Pokemon Radar**

Session Concept

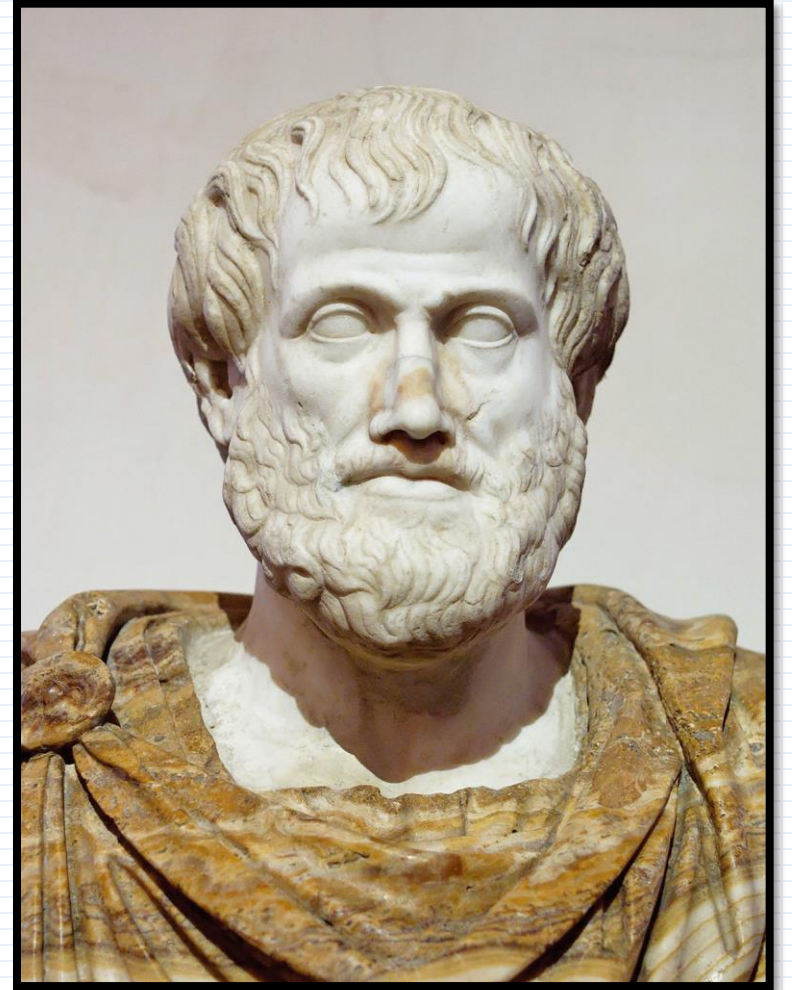
Tizen Application 개발에
익숙하지 않은 사람도
빠르게 프로토타이핑 할 수 있는
Sample App `복붙수정` 개발론(?!) 소개

트렌디하면서 재미있는 뭔가를 해보자

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EFL

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- Written in C
- Has own object-system
- Quite different from modern ui framework
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Tizen SDK

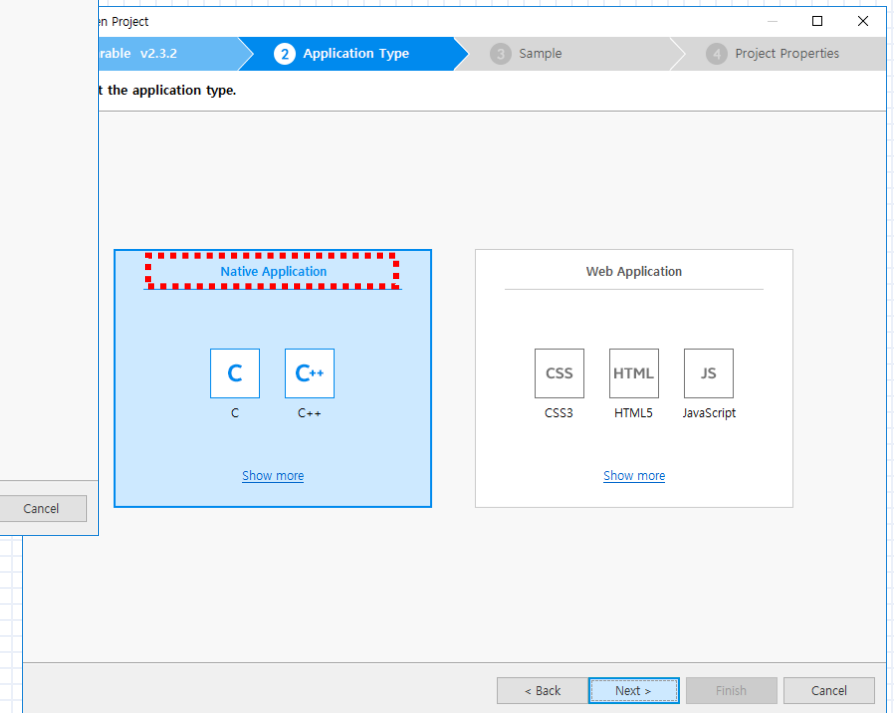
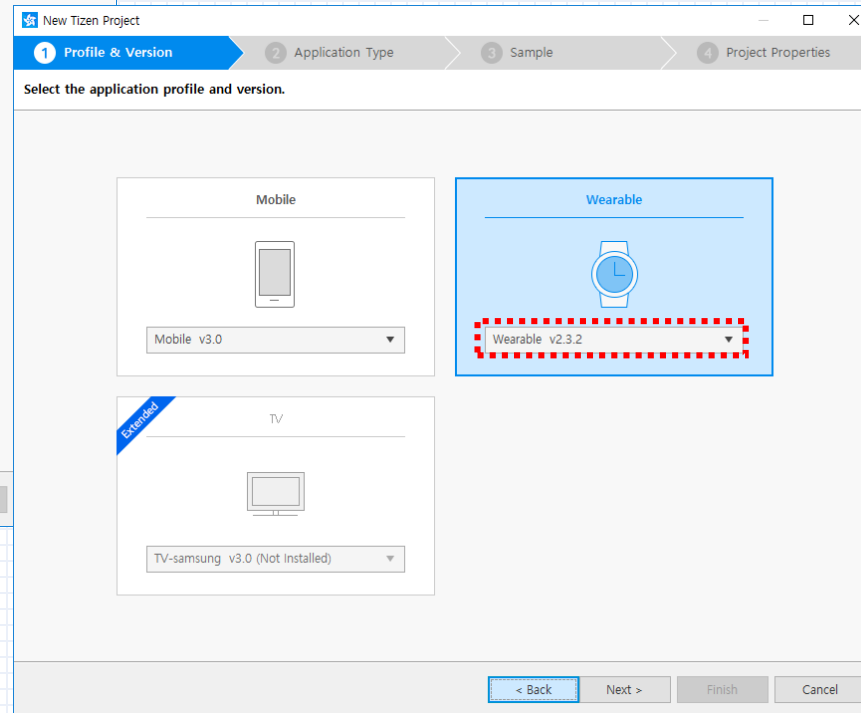
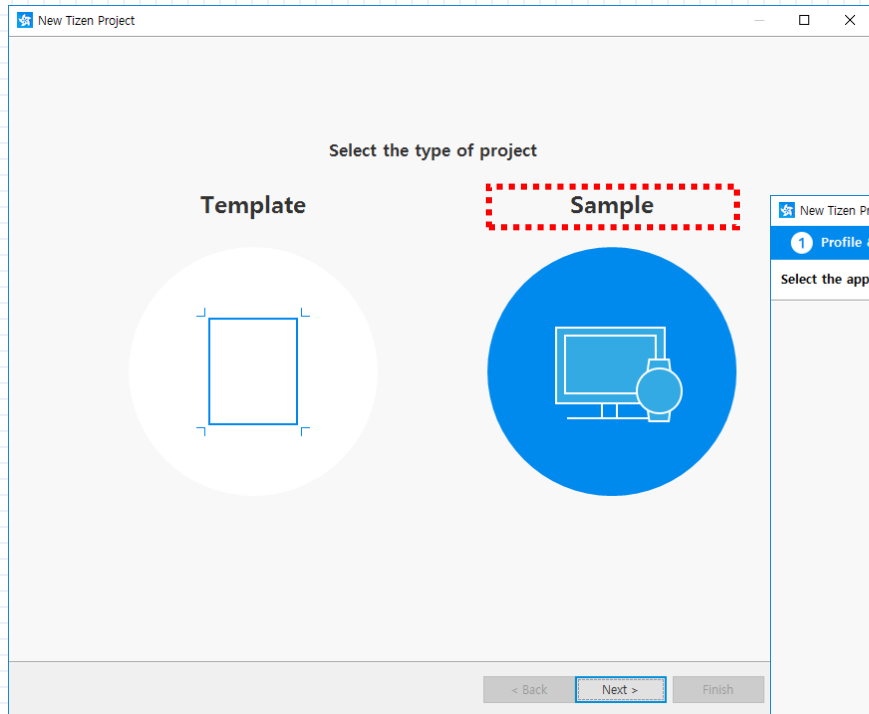
- Install Tizen SDK

<https://developer.tizen.org/development/tizen-studio/download>

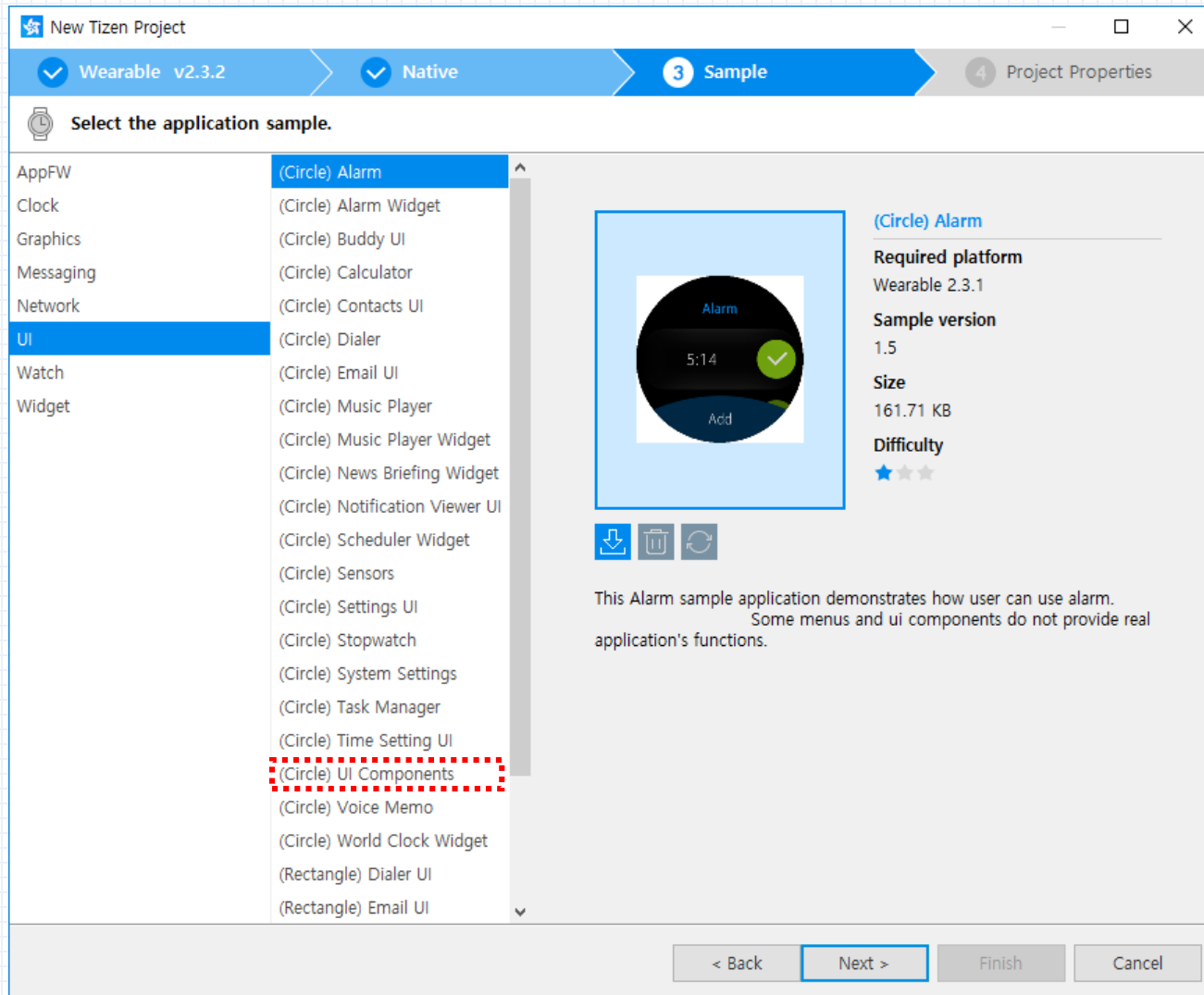
- Run Tizen studio

- Create project

Sample application(official)



Sample application(official)



'UI Components'

Sample app demonstrates how you can
implement ui components
such as button, list, etc ...

Running ui-components

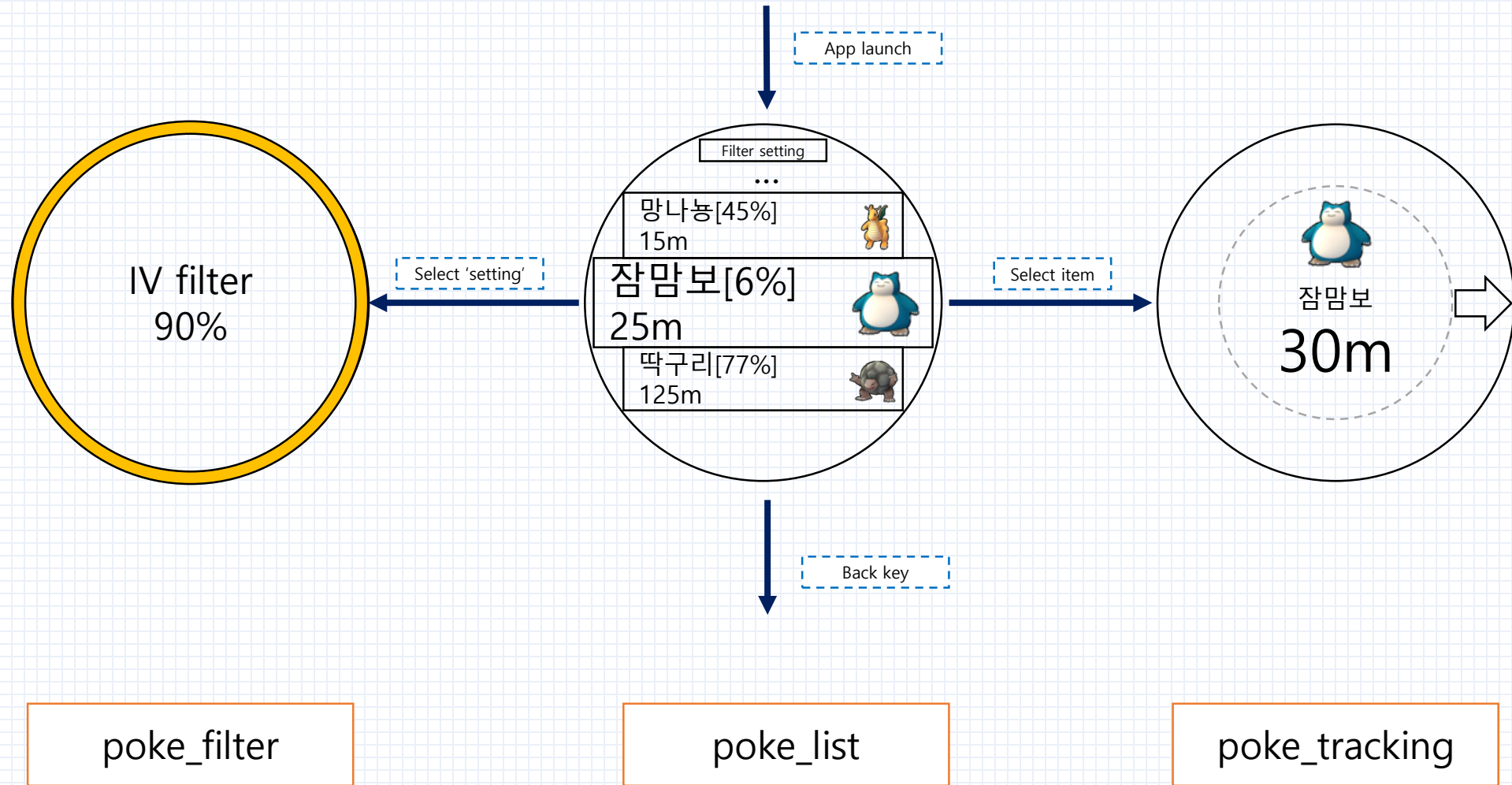
What to make

- 주제 : Pokemon radar
- 기능
 - 주변 포켓몬 리스트 제공
 - 리스트 필터링
 - 포켓몬 나침반

What to make

- 주제 : Pokemon radar
- 기능
 - 주변 포켓몬 리스트 제공
 - 정식 지원 API
 - 리스트 필터링
 - 포켓몬 나침반
 - ...지자기센서리스

Planning

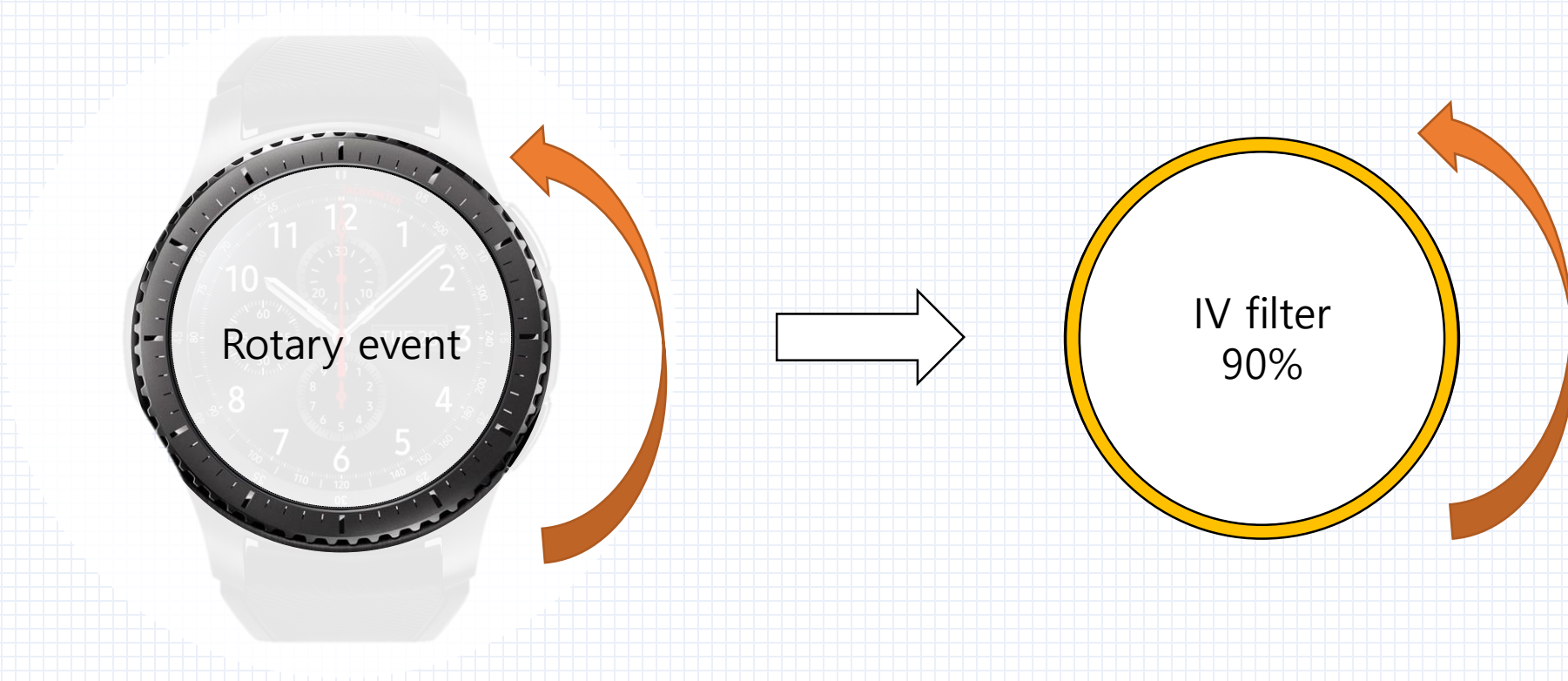


실제 복붙에 앞서서

EFL App Infra Structures

- Window
 - Top most container
- Conformant
 - used for supporting a software keyboard, and a indicator
- Layout
 - base container (edge wrapper)
- Naviframe
 - manage items(views) by stacking

eext_circle_surface



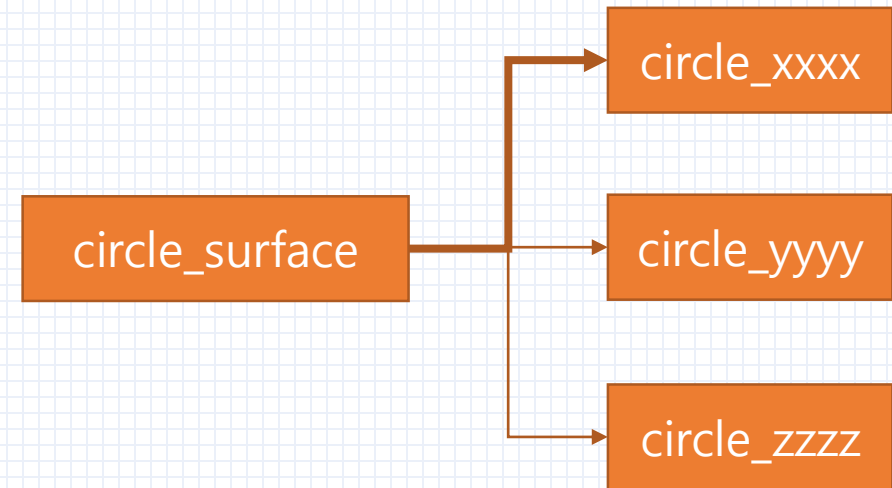
eext_circle_surface

Circle Surface

This feature is supported in wearable applications only.

The circle surface component manages and renders [circle objects](#). Multiple circle objects can be connected to 1 circle surface as candidates of an object to be rendered. When 1 circle object is set as visible, the surface renders the circle object and hides the others.

For more information, see the [Efl Extension Circle Surface API](#).



appdata

- Context structure in global scope

```
typedef struct appdata{
    Evas_Object* win;
    Evas_Object* conform;
    Evas_Object* layout;
    Evas_Object* nf;

    Eext_Circle_Surface* circle_surface;
    Evas_Object* circle_genlist;

    Evas_Object* genlist;
    Ecore_Thread* genlist_thread;
    Eina_List* genlist_data;

    Evas_Object* slider_layout;
    int iv_min;
    spawn_info *selected;
    location_manager_h loc_manager;
} appdata_s;
```

Getting started

```

static void
create_base_gui(appdata_s *ad)
{
    /* Window */
    ad->win = elm_win_util_standard_add(PACKAGE, PACKAGE);
    elm_win_conformant_set(ad->win, EINA_TRUE);
    elm_win_autodel_set(ad->win, EINA_TRUE);

    if (elm_win_wm_rotation_supported_get(ad->win)) {
        int rots[4] = { 0, 90, 180, 270 };
        elm_win_wm_rotation_available_rotations_set(ad->win, (const int *)&rots, 4);
    }

    evas_object_smart_callback_add(ad->win, "delete,request", win_delete_request_cb, NULL);

    /* Conformant */
    ad->conform = elm_conformant_add(ad->win);
    evas_object_size_hint_weight_set(ad->conform, EVAS_HINT_EXPAND, EVAS_HINT_EXPAND);
    elm_win_resize_object_add(ad->win, ad->conform);
    evas_object_show(ad->conform);

    // Eext Circle Surface Creation
    ad->circle_surface = eext_circle_surface_conformant_add(ad->conform);

    /* Indicator */
    /* elm_win_indicator_mode_set(ad->win, ELM_WIN_INDICATOR_SHOW); */

    /* Base Layout */
    ad->layout = elm_layout_add(ad->conform);
    evas_object_size_hint_weight_set(ad->layout, EVAS_HINT_EXPAND, EVAS_HINT_EXPAND);
    elm_layout_theme_set(ad->layout, "layout", "application", "default");
    evas_object_show(ad->layout);

    elm_object_content_set(ad->conform, ad->layout);

    /* Naviframe */
    ad->nf = elm_naviframe_add(ad->layout);
    create_list_view(ad);
    elm_object_part_content_set(ad->layout, "elm.swallow.content", ad->nf);
    eext_object_event_callback_add(ad->nf, EEXT_CALLBACK_BACK, eext_naviframe_back_cb, NULL);
    eext_object_event_callback_add(ad->nf, EEXT_CALLBACK_MORE, eext_naviframe_more_cb, NULL);

    /* Show window after base gui is set up */
    evas_object_show(ad->win);
}

```

pokemon_list

- ui_component sample을 열어 찾아보자
- eext_genlist > 2text.1icon.divider style
- 코드를 보자



eext_genlist sample '복붙수정'

```
void
create_poke_list(appdata_s *ad)
{
    Evas_Object *genlist;
    Evas_Object *circle_genlist;
    Evas_Object *nf = ad->nf;
    Elm_Object_Item *nf_it;

    /* Genlist */
    ad->genlist = genlist = elm_genlist_add(nf);
    elm_genlist_mode_set(genlist, ELM_LIST_COMPRESS);
    elm_object_style_set(genlist, "focus_bg");

    ad->circle_genlist = circle_genlist = eext_circle_object_genlist_add(genlist, ad->circle_surface);
    eext_circle_object_genlist_scroller_policy_set(circle_genlist, ELM_SCROLLER_POLICY_OFF, ELM_SCROLLER_POLICY_AUTO);
    eext_rotary_object_event_activated_set(circle_genlist, EINA_TRUE);

    nf_it = elm_naviframe_item_push(nf, NULL, NULL, NULL, genlist, "empty");
    elm_naviframe_item_pop_cb_set(nf_it, naviframe_pop_cb, ad->win);

    refresh_poke_list(ad);
}
```

부하로직

- api 호출을 위한 네트워크 작업
- 리소스 다운로드 등을 위한 네트워크 작업
- 기타 등등 부하로직

=> 부하는 모다?

Thread

- Main thread를 block 시키면 안됨
- EFLCoresample app을 찾아보자
- ecore_thread!!
- 코드를 보자

ecore_thread_5 '복붙수정'

```
static void
thread_end_cb(void *data, Ecore_Thread *thread)
{
    appdata_s *ad = data;

    Eina_List *list = ad->genlist_data;
    Eina_List *l;

    //append retrieved items to genlist
    Elm_Genlist_Item_Class *itc = elm_genlist_item_class_new();
    Elm_Genlist_Item_Class *ptc = elm_genlist_item_class_new();
    Elm_Genlist_Item_Class *stc = elm_genlist_item_class_new();

    itc->item_style = "2text.1icon.divider";
    itc->func.content_get = _gl_divider_icon_get;
    itc->func.text_get = _gl_text_get;

    ptc->item_style = "padding";

    stc->item_style = "default";
    stc->func.text_get = _gl_menu_base_text_get;




    EINA_LIST_FOREACH(list, l, data)
    {
        elm_genlist_item_append(ad->genlist, itc, data, NULL, ELM_GENLIST_ITEM_NONE, _gl_sel, ad);
    }




    elm_genlist_item_append(ad->genlist, stc, (void*)2, NULL, ELM_GENLIST_ITEM_NONE, _setting_item_clicked, ad);
    elm_genlist_item_append(ad->genlist, ptc, NULL, NULL, ELM_GENLIST_ITEM_NONE, NULL, NULL);

    elm_genlist_item_class_free(itc);
    elm_genlist_item_class_free(stc);
    elm_genlist_item_class_free(ptc);

    ad->genlist_thread = NULL;
}
```

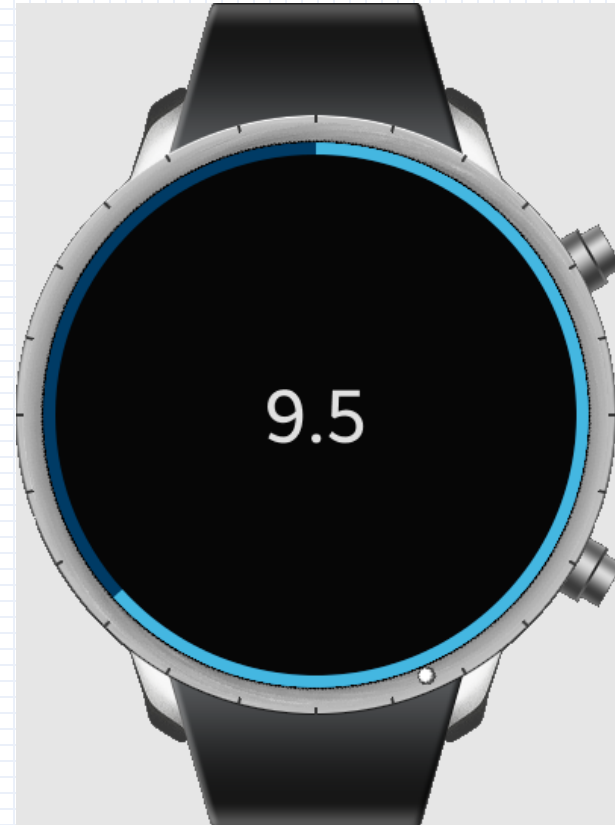
Pokemon list 완성

Filter setting	
...	
망나뇽[45%] 15m	
잠맘보[6%] 25m	
딱구리[77%] 125m	

Chinchou [68.]	
Cleffa [35.6%] 25m (127.0, 62.0)	
Arcanine [28.]	

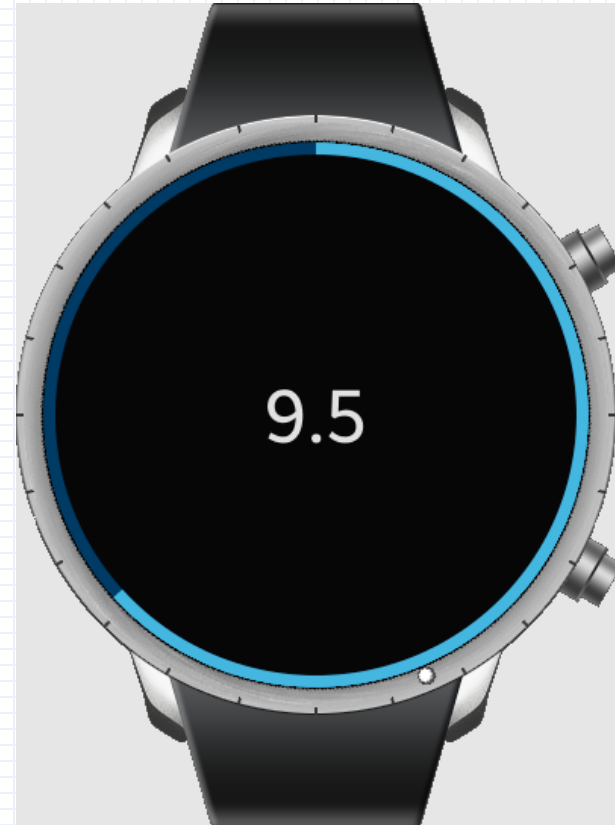
poke_filter(setting)

- `ui_component app > eext_slider`
- 코드를 보자



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poke_filter(setting)

- 거의 그대로
- iv filtering을 위한 min값 관련 로직 추가
- setting layout0이 naviframe에서 pop될 때 surface 관련 로직추가



Poke_tracker

- Layout 한장이면 될 것 같다.
- Slider의 layout theme을 참고



후기

- 30분은 매우 오바였습니다
- 앱 코드는 조금 다듬어서 github에 올려 놓을게요
- 기어로 재미있는 App 만들 것이 있으면 저도 알려주세요

Any Question?

Thank you.