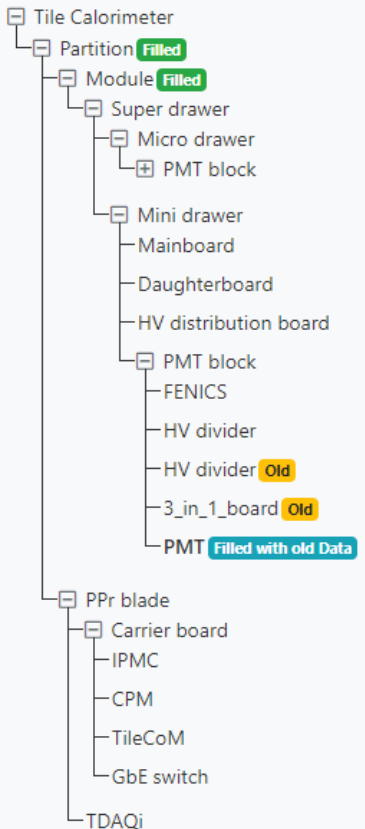


TileCal DB

KVERENCHKHILADZE Irakli
Georgian Technical University

INTRODUCTION



Disassembly ▾ Assembly ▾ Insert ▾ Reception of components at CERN ▾

PMT

Show 10 entries

Search:

Serial Number	PMT Block ID	Phase2 Module	Old Module	Phase2 Position in SD	Old Position	Beta	HV Nomimal	QE	Type	Run Number	Status	Location	Comment
110003						6.482	708	20.9	R11187	158			
110005						6.581	687	20.6	R11187	158			
110032						6.385	733	21	R11187	158			
110041						6.688	641	20.5	R11187	158			
110050						6.417	667	22	R11187	158			
110053						6.599	676	21.8	R11187	158			
110054						6.87	679	21.2	R11187	158			

Working Plan

1st Quarter January-February-March

Project #01: MySQL DB Tables Development

1. Creating plan to save component modification histories ✓
2. Setting up backup and recovery plan ✓

Manpower: 1FTE

Total: 4 Weeks

Output: MySQL tables

Project #02: Development of early Application Functionality

1. Implementing advanced filter for component properties and add possibility to sort rows ✓
2. Creating priority list to different part of components what is being received at CERN and creating functionality to add such components into the database ✓

Manpower: 1FTE

Total: 6 Weeks

Output: JS/Php Application

Working Plan

2nd Quarter April-May-June

Project #03: Development of Application Functionality & User Interface

1. UI: Creating Input Controls (buttons, text fields, check-boxes, radio buttons, drop-down lists, list boxes, toggles, date fields, tables for database records, and input forms for Create, Update and Disassembly/Assembly/Reception of components at CERN processes. ✓
2. UI: Creating Informational Components (icons, progress bar, notifications, message boxes, modal windows) ✗
3. Writing modules for CRUD (Create, Read, Update, Delete) operations for all components. ✗
4. Writing modules for composite component Disassembly/Assembly/Update processes. ✗

Manpower: 1FTE

Total: 13 Weeks

Output: JS/Php Application

Project #1 status

Creating a plan to save component modification histories

Database structure fully supports the feature to save every component modification history, this is done on the server side via MySQL triggers and there is no need for user/web application interaction for the task.

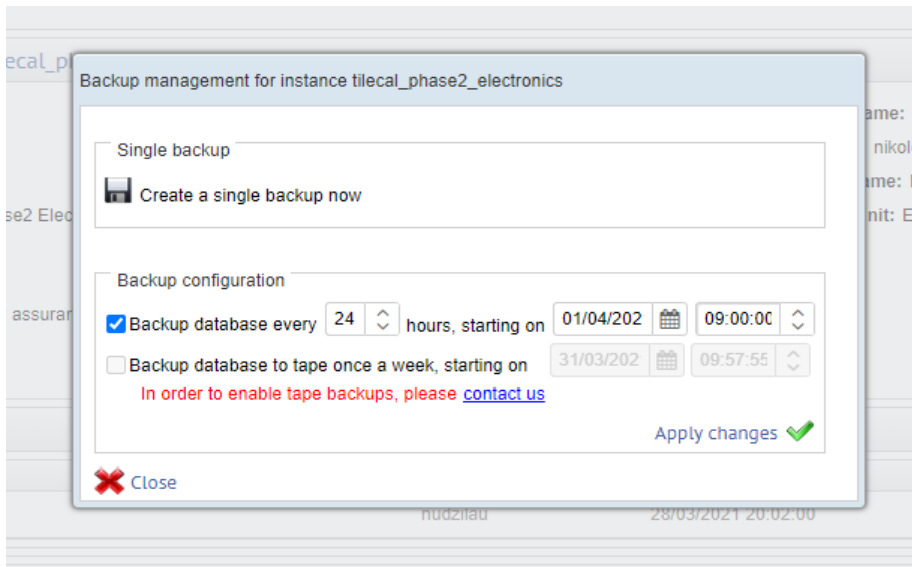
MySQL Trigger Example for PMT table

```
811 CREATE TRIGGER `pmt_hist` AFTER UPDATE ON `pmt`
812     FOR EACH ROW
813     INSERT INTO tilecal_electronics_hist.pmt_hist
814     (serial_number, id_pmt_block, module,
815     module_in_legacy_tilecal, pos_in_legacy_tilecal,
816     pos_in_phase2_tilecal, beta, HV_nominal,
817     QE, pmt_type, run_number, component_status,
818     current_location, remark, start_date, end_date,
819     created_by, changed_by)
820     VALUES (old.serial_number, old.id_pmt_block, old.module,
821     old.module_in_legacy_tilecal, old.pos_in_legacy_tilecal,
822     old.pos_in_phase2_tilecal, old.beta, old.HV_nominal, old.QE,
823     old.pmt_type, old.run_number, old.component_status,
824     old.current_location, old.remark, old.updated_at,
825     NOW(), old.created_by, old.updated_by);
826
```

Project #1 status

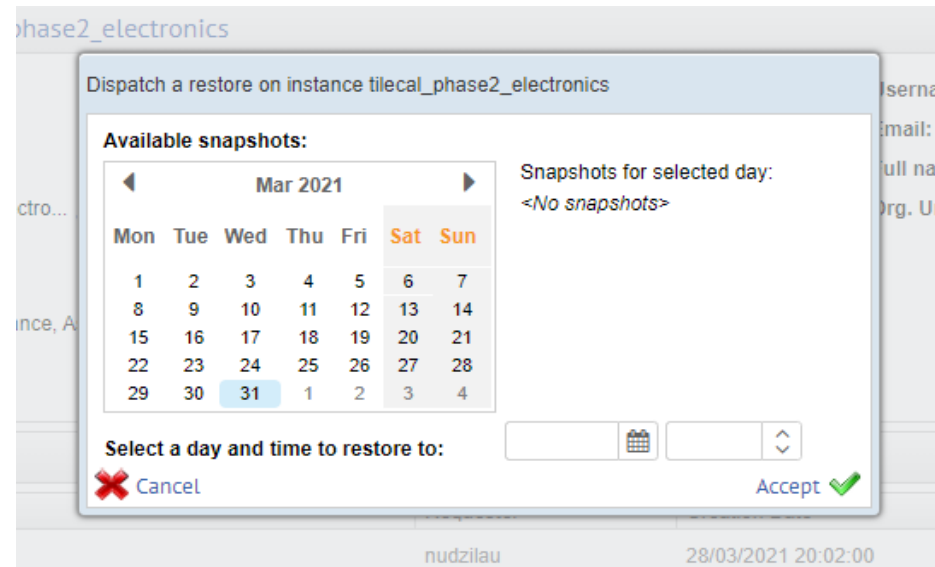
Setting up a backup and recovery plan

Backup:



We use “CERN DATABASE ON DEMAND SERVICE” which gives the feature to set up automatic backups. Below is the backup configuration example.

Restore:



Restore is also managed through DBOD Service, by selecting the date and time to restore.

Project #2 status

Implementing advanced filters for component properties and add possibility to sort rows

1. Possibility to **sort rows** (ASC, DESC)
2. **Normal filter**, “possibility to filter values of components by specifying exact value”
e.g. 110003 or “LBA01”

Module

Show entries

Module <small>↑↓</small>	Partition <small>↑↓</small>	Module Number <small>↑↓</small>	LV Box
EBA00	EBA	00	
EBA01	EBA	01	
EBA02	EBA	02	
EBA03	EBA	03	
EBA04	EBA	04	

Project #2 status

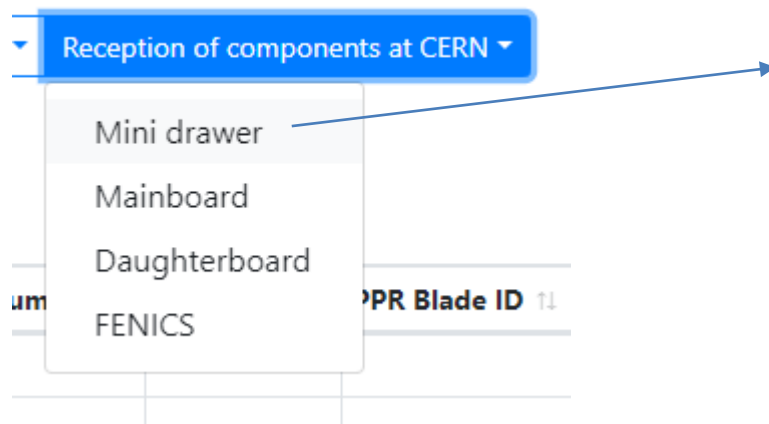
Creating priority lists to different parts of components that are being received at CERN and creating functionality to add such components into the database

The procedure from application is the following:

Choose the component to add -> Fill the form -> Click Save.

The Fields:

1. **Component ID** (Required) (Can be entered by scanning the component barcode or entering it manually)
2. **Status** (e.g. delivered, etc.)
3. **Current Location** (Storage #, etc..)
4. **Additional Comments.**



A screenshot of a web application form titled "Add Mini Drawer". The form contains the following fields:

- Mini Drawer:** A text input field with the placeholder text "Mini drawer ID".
- Status:** A text input field with the placeholder text "Please enter status e.g. delivered".
- Current location:** A text input field with the placeholder text "Please enter current location".
- Comments:** A text area with the placeholder text "Additional comments".

At the bottom right of the form, there are two buttons: a green "Save" button with a checkmark icon and a "Cancel" button with a warning triangle icon.

2.1 UI: Creating Informational Components (icons, progress bar, notifications, message boxes, modal windows)

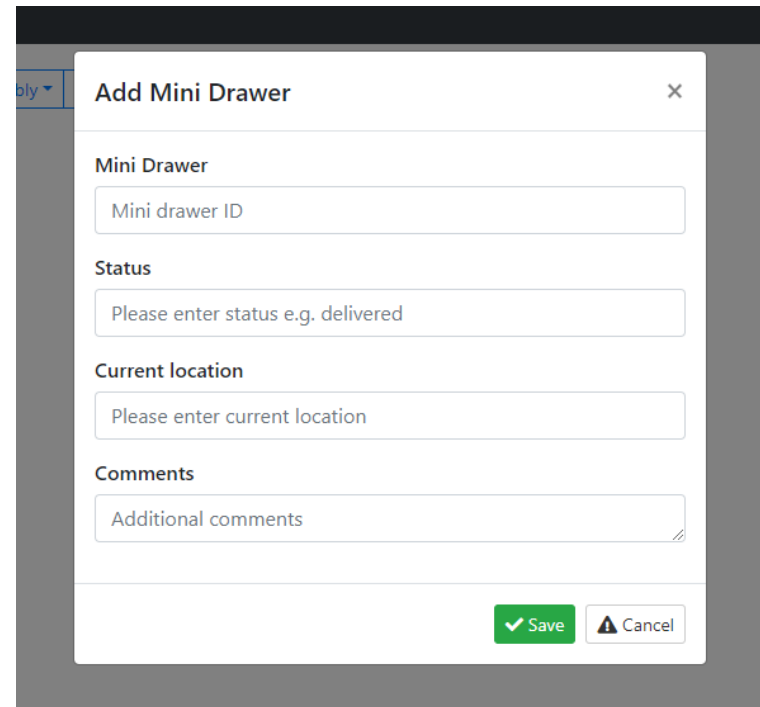
Progress bar



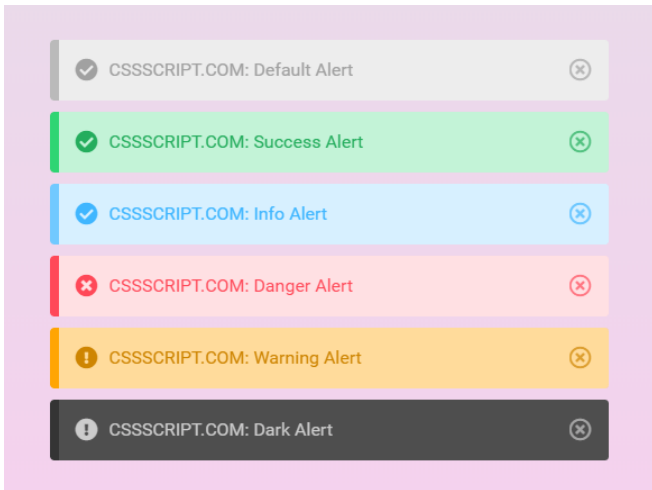
Notification



Modal Window

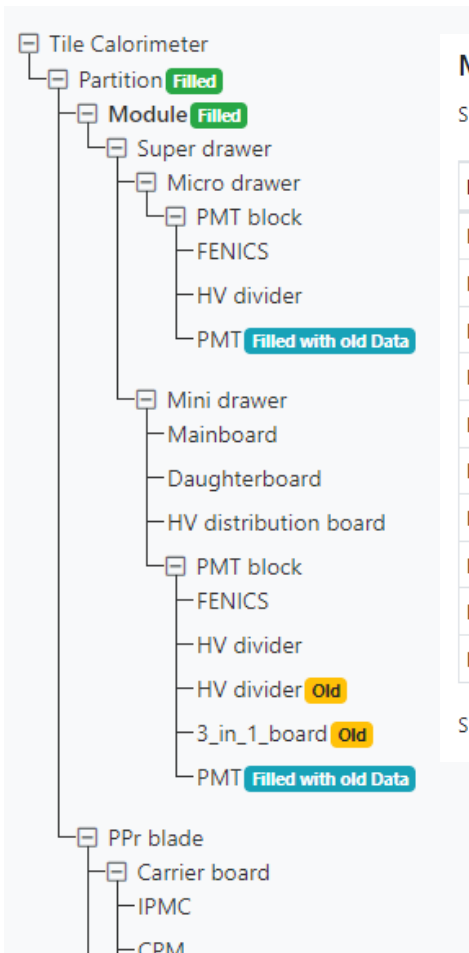


Message box examples














2.2 Writing modules for CRUD (Create, Read, Update, Delete) operations for all components

Components



Module

Show 10 entries

Module	Partition	Module Number	LV Box IDr	PPR Blade ID	Auxiliary Board ID	HV Regulation Board ID	Comment	Action
EBA00	EBA	00						 
EBA01	EBA	01						 
EBA02	EBA	02						 
EBA03	EBA	03						 
EBA04	EBA	04						 
EBA05	EBA	05						 
EBA06	EBA	06						 
EBA07	EBA	07						 
EBA08	EBA	08						 
EBA09	EBA	09						 

Showing 1 to 10 of 264 entries

Update icon

Search:

Previous **1** 2 3 4 5 ... 27 Next

2.3. Writing modules for composite component Disassembly/Assembly/Update processes

A screenshot of a software interface. At the top, there is a navigation bar with four dropdown menus: 'Disassembly' (highlighted in blue), 'Assembly', 'Insert', and 'Reception of components at CERN'. Below the 'Disassembly' menu, a dropdown list is open, showing three options: 'Super drawer', 'PMT block', and 'Stand-alone PMT block'. Below the menu is a table with columns: 'Module Number', 'LV Box IDr', and 'PPR Blade ID'. The table is partially obscured by the dropdown menu.

A screenshot of a software interface. At the top, there is a navigation bar with four dropdown menus: 'Disassembly', 'Assembly' (highlighted in blue), 'Insert', and 'Reception of components at CERN'. Below the 'Assembly' menu, a dropdown list is open, showing four options: 'Super drawer', 'Mini drawer', 'Micro drawer', and 'PMT block'. To the left of the dropdown, there is a 'Module' label and a 'Show 10' dropdown menu. Below the menu is a table with columns: 'Module', 'Part', 'Module Number', 'LV Box IDr', and 'PPR Blade ID'. The table is partially obscured by the dropdown menu.

3rd Quarter July-August -September

Project #04: Development of main functionality and connecting them to UI elements

1. Writing module of Barcode recognition based on barcode structure
2. Writing module for bringing either existing record for scanned component if it is already in the DB, or bringing an interface for that specific component that proposed to create a corresponding entry
3. Connecting components tree to a database
4. Writing module to give assistance during the process of inserting/updating data in the database (providing hints, giving warnings in case of inaccuracy and in case of any type of system error)
5. Creating modules for additional requirements. (Recognize super drawer structure based on partition and module; Check compatibility between the PMT block and the slot which it is being inserted in; Recognize restricted positions for PMT blocks in Super drawer, etc.)

Manpower: 1FTE

Total: 13 Weeks

Output: JS/Php Application

We are late in deadline and our main priority is to catch up to the working plan.

Workaround :

1. 2nd quarter finish time : 30 July
2. 3rd quarter finish time : 30 September

Thanks for your
Attention!

Comments are Welcome

irakli.kverenchkhiladze@cern.ch