Conception

Large Hadron Collider Runs
1 2009 → 2013
2 2015 → 2018
3 2022 → today
4

Tasks division for runs 3 and 4

01 Experimental shifts in the ALICE Run Control Centre
02 On-call shifts
03 Detector maintenance, operation, calibration, quality control, data processing, outreach, coordination roles and more...

ALICE SAMS System

Usage statistics
★ 1014 Members
★ 388 Tasks
★ 154 Institutions
★ 40 Countries
★ 29 Projects
Design

- Clean and user-friendly interface.
- Quick and responsive.
- Respects experiment visual identity.

Coffee Brewing

Coffee Brewing is a task that involves preparing and brewing coffee using various methods such as drip, French press, or pour-over.
Features

Credits accounting (FTE)
Track work progress.

Year planning
Plan ahead annual workload.

Task management
Create, plan, assign and manage work.

Members’ coordination
Manage credits limit, monitor progress and track assignments.

Clusterization
Group and share credits across institutes.

Statistics
Improved data visualization.
Year Planning

Period Details
- Start date: 2022-01-01
- End date: 2022-12-31
- M&O date: 2021-09-01
- Kappa (fixed): 0.25
- Planned FTE: 204.497
- Total M&O: 626
- Neutral institutes: [List]

Period Settings
- Lock accounting period
- Lock plannings
- Lock assignments
- Lock service clusters
- Lock kappa
- Carryover: 2021

Period Statistics
- Planned FTE per Project
- Minimum assigned/due
- Maximum assigned/due

Jomar Junior de Souza Pereira | CHEP 2023
### Institutions accounting

#### ALICE Service Work

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>MJD</th>
<th>Carryover</th>
<th>Assigned FTE</th>
<th>Planned FTE</th>
<th>Assigned / Planned (%)</th>
<th>Unassigned FTE</th>
<th>Planned FTE</th>
<th>Assigned / Planned (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Projects accounting

<table>
<thead>
<tr>
<th>Sort by</th>
<th>Project</th>
<th>Tasks</th>
<th>Assignees</th>
<th>Assigned FTE</th>
<th>Planned FTE</th>
<th>Assigned / Planned (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project</td>
<td></td>
<td>2</td>
<td>3</td>
<td>6.600</td>
<td>1.360</td>
<td></td>
</tr>
<tr>
<td>Tasks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assignees</td>
<td></td>
<td>7</td>
<td>46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assigned FTE</td>
<td></td>
<td>5.001</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planned FTE</td>
<td></td>
<td>9.403</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assigned / Planned (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Implementation

An approachable, performant and versatile framework for building web user interfaces.

A popular general-purpose scripting language that is especially suited to web development.

Vuex

Communication with other CERN applications

HTTP

Request

Response

Send data

Display results

Send data

HTTP

Request

Response

Client

Rest API

Database versioning

Doctrine Migrations

CERN

Vuex 2.0

HTTP

Read and Write

Vuex

CERN

doctrine

Read and Write
Back-end architecture

Practices

- **Encapsulation**
  Protection from outside world.

- **Business rules**
  Separated and well defined.

- **Adapter**
  Morph any entry to a standard command.

Results

- **Flexibility**
  Easy maintenance and testing

- **Newcomer-friendly**
Contexts

Self-contained
No dependencies between contexts, with their own:

- Rules
- Actions
- Entities

Which leads to:

Task

Member

Permission

Accounting

Institution
Future developments

Dockerization
Migrate to containerized environments.

Continuous deployment
Remove the time spent on manual deployments.

Advanced search
More options for searching the dataset.

T5 - Glance Search Interface
May 9th, 2023 - 02:30 pm

PHP Version 8^ 
Stop using older versions of PHP.
ALICE Service Work System

Thanks!
jomar.junior@cern.ch
Infrastructure to Domain to Infrastructure

class UpdateAssignmentHandler

```php
public function handle(/* Parameters */): void
{
    $assignment = $this->assignmentRepository->findById($assignmentId);
    $updatedAssignment = $this->assignmentUpdaterService->update($assignment,
        $newAssigneeId,
        $newInstituteId,
        $newPeriod,
        $newFte,
        $agentId);
    $this->assignmentRepository->save($updatedAssignment);
    $this->eventDispatcher->dispatchAll($this->assignmentUpdaterService->releaseAll());
}
```

class AssignmentUpdaterService

```php
public function update(/* Parameters */): void
{
    $oldAssignment = clone $assignment;
    $assignment->changeAssigneeId($newAssigneeId);
    $assignment->changeInstituteId($newInstituteId);
    $assignment->changePeriod($newPeriod);
    $assignment->changeFte($newFte);
    $this->addEvent(AssignmentUpdated::fromModels($oldAssignment, $newAssignment));
    return $assignment;
}
```