Quality Assurance,MPPC Testing: Database and Interface

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Goal

Implementation of a form based web program able to handle a large database for the quality assurance collaboration with the Jefferson Lab.
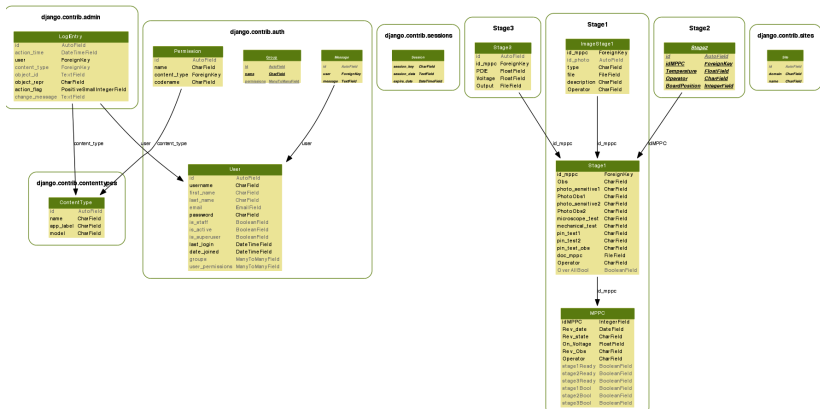
The software should be easy to use and easy to use, modular and extensible

Current Status

- DataBase
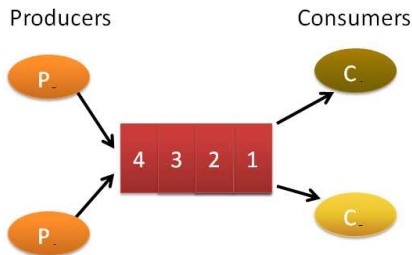- Task Queue
- Data Presentation

DataBase. . .

The database is implemented using Mysql. This model has been changing in the last period, adapting itself to our new needs. Several tables have been added to our model so the system is able to support the Queue.

Task Queue

- Task Queue: We have developed an application queue system for the PDE and Dark Box Stages. This allows us to have an asynchronous handling of the testing programs and the analysis routines as well. The queue provides us a much better error handling system since we are separating continous functions in a program in a system of tasks.
  This new addition handles log files, task status, task duration, task killing and parallel running.

Task Queue

djcelery

TaskState
id	AutoField
state	CharField
task_id	CharField
name	CharField
tstamp	DateTimeField
args	TextField
kwargs	TextField
eta	DateTimeField
expires	DateTimeField
result	TextField
traceback	TextField
runtime	FloatField
retries	IntegerField
worker	ForeignKey
hidden	BooleanField

PeriodicTask
id	AutoField
name	CharField
task	CharField
interval	ForeignKey
crontab	ForeignKey
args	TextField
kwargs	TextField
queue	CharField
exchange	CharField
routing_key	CharField
expires	DateTimeField
enabled	BooleanField
last_run_at	DateTimeField
total_run_count	PositiveIntegerField
date_changed	DateTimeField

PeriodicTasks
ident	SmallIntegerField
last_update	DateTimeField

TaskSetMeta
id	AutoField
taskset_id	CharField
result	PickledObjectField
date_done	DateTimeField

TaskMeta
id	AutoField
task_id	CharField
status	CharField
result	PickledObjectField
date_done	DateTimeField
traceback	TextField

worker

interval

crontab

WorkerState
id	AutoField
hostname	CharField
last_heartbeat	DateTimeField

IntervalSchedule
id	AutoField
every	IntegerField
period	CharField

CrontabSchedule
id	AutoField
minute	CharField
hour	CharField
day_of_week	CharField

Data Presentation. . .

- Report lab
    - The system is generating Pdf reports on request.
- Google Charts API
    - QR identification Image.
    - GUI Visual artifacts.(Graphs, tables, Pie Charts...)

What's Next. . .

- Define the Stage 2 ROOT Structure
  - During this week should be ready!

- Define Stage 2 GUI
  - Currently a work in progress!

Questions?