

Parts ID Database Testing

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Parts ID

Need IDs that identify all LBNF and DUNE components that are used during the construction of the LBNF facility (including both the far site at the SURF and the near site at Fermilab) and of all the corresponding detectors.

Defintion

- The scheme has been designed by Marco Verzocchi.

For more details, see <https://edms.cern.ch/document/2505353>

- As of today, it's a string, consisting of 29 alphanumericics with 7 fixed and 3 mutable columns.

D/I/L/P	01-99	001-999	0001-FFFF	-	0001-FFFF	-	AA-ZZ	001-999	-	00-99	00-99	001-999
Project	System ID	Subsystem ID	Item Type ID	Dash	Item Number	Dash	Country of Origin	Responsible Institution ID	Dash	Detector ID	Final Destination	Intermediate Destination
F	F	F	F		F		F	F		M	M	M

E.g.,

- Project : D (=DUNE)
(Do we have a separate Project for pDUNE-II if we're to use the HWDB for pDUNE-II as well?)
- System ID : 06 (= HD Cathode Plane Array)
- Subsystem ID : 001 (= FR4 frames. 002 = FSS, 003 = RP ... etc)
- ItemType ID : 0001 (= main support bar. 0002 = upper-side bar.. etc)
- Item Number : 0001
- Country : US
- Institution : 125 (= ANL)

Or D060010001-0001-US-125

PartsID DB

- Must have a PartsID for every entry in the HWDB.
- PartsID DB;
 - ▶ generates such ID,
 - ▶ makes sure it is unique (has not been employed)
- George Salukvadze has developed such DB and its test version is accessible @;
<https://dune-pbs-id-gen.web.cern.ch/dune-pbs-id-gen/index.php>
- Rest of this talk is a report of my experience from the web site.
The web site provides a GUI-based access.

DUNE PBS ID



This page allows you to generate DUNE PBS ID with barcode and QR code, as well scan and decode barcode and QR code.

Generator

In order to generate ID, please choose from the following fields and click 'Generate':

Project	System	Subsystem	Item type	Item number
<input type="text" value="DUNE"/>	<input type="text" value="sys1"/>	<input type="text" value="Cryogenics North"/>	<input type="text" value="warm structure vertical side wall beam type A"/>	<input type="text"/>

Origin	Owner	Detector	Destination 1	Destination 2
<input type="text" value="United States"/>	<input type="text" value="Fermi National Accelerator Laboratory"/>	<input type="text" value="1-FS"/>	<input type="text" value="FS-surface storage"/>	<input type="text" value="FS-N-Cavern"/>

List of generated IDs:

[Export](#)

The ID will be here

Choose from the predefined columns,
along with your Item number

Decoder

In order to decode the ID, please enter it in the input field and click 'Decode'

This test site was created sometime ago.
As such, the scheme here is slightly outdated.

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Origin	Owner	Detector	Destination 1	Destination 2
<input type="text" value="United States"/>	<input type="text" value="Fermi National Accelerator Laboratory"/>	<input type="text" value="1-FS"/>	<input type="text" value="FS-surface storage"/>	<input type="text" value="FS-N-Cavern"/>

Generated IDs are listed here

List of generated IDs:
D010010001-0001-US001-0101001

[Export](#)

The ID will be here



D010010001-0001-US001-0101001



Hitting "Generate" produces a barcode and QR-code.

Decoder

- Would be nice to have the human-readable line under QC code as well.
- also, nice to be able to print the generated code(s), along with a title/comments.

DUNE PBS ID



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Generator

In order to generate ID, please choose from the following fields and click 'Generate':

Project	System	Subsystem	Item type	Item number
DUNE	sys1	Cryogenics North	warm structure vertical side wall beam type A	1

Origin	Owner	Detector	Destination 1	Destination 2
United States	Fermi National Accelerator Laboratory	1-FS	FS-surface storage	FS-N-Cavern

An Item# with non-4-figures is accepted.
Needs to be fixed.

The ID will be here

List of generated IDs:

D010010001-0001-US001-0101001
D010010001-1-US001-0101001



D010010001-1-US001-0101001



Decoder

In order to decode the ID, please enter it in the input field and click 'Decode'

DUNE PBS ID



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In order to generate ID, please choose from the following fields and click 'Generate':

Project	System	Subsystem	Item type	Item number
DUNE	sys1	Cryogenics North	warm structure vertical side wall beam type A	0001

Origin	Owner	Detector	Destination 1	Destination 2
United States	Fermi National Accelerator Laboratory	1-FS	FS-surface storage	FS-N-Cavern

The ID will be here



List of generated IDs:
D010010001-0001-US001-0101001
D010010001-1-US001-0101001
D010010001-0001-US001-0101001

Decoder

In order to dec

- Currently the generator allows to produce duplicated IDs (granted, it is a test version).

Wonder if these numbers could be incremented automatically?
E.g., I entered up to 000A.

Nice if it suggests me to enter a number between 0010 and FFFF.

- The “Export” button doesn’t work for now.

I’m assuming it produces a list of the produced IDs (a text file?)

DUNE PBS ID



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Generator

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<input type="text" value="DUNE"/>	<input type="text" value="sys1"/>	<input type="text" value="Cryogenics North"/>	<input type="text" value="warm structure vertical side wall beam type A"/>	<input type="text" value="0001"/>

Origin	Owner	Detector	Destination 1	Destination 2
<input type="text" value="United States"/>	<input type="text" value="Fermi National Accelerator Laboratory"/>	<input type="text" value="1-FS"/>	<input type="text" value="FS-surface storage"/>	<input type="text" value="FS-N-Cavern"/>

The ID will be here



D010010001-0001-US001-0101001



List of generated IDs:

D010010001-0001-US001-0101001

D010010001-1-US001-0101001

D010010001-0001-US001-0101001

Decoder

Data already exists

Project: DUNE

System: CF-FS

Subsystem: Cryogenics North

Item type: warm structure vertical side wall beam type A

Item number: 0001

Origin: United States

Owner: Fermi National Accelerator Laboratory

Detector: 1-FS

Destination 1: FS-surface storage

Destination 2: FS-surface storage

There is also a decoder box.
Works well.

DUNE PBS ID

[Generator/Decoder](#)[Barcode Scanner](#)[Aggregator](#)[Data entry](#)

3 other pages are also available.

- Barcode Scanner : Takes a code by scanning with your camera.
- Aggregator : Takes a file that contains a list of IDs to generate the corresponding bar/QR codes.
- and Data entry.

This page allows you to generate DUNE PBS ID with barcode a

Generator

List of generated IDs:

Export

In order to generate ID, please choose from the following fields and click 'Generate':

Project	System	Subsystem	Item type	Item number
DUNE	sys1	Cryogenics North	warm structure vertical side wall beam type A	

Origin	Owner	Detector	Destination 1	Destination 2
United States	Fermi National Accelerator Laboratory	1-FS	FS-surface storage	FS-N-Cavern

Generate The ID will be here

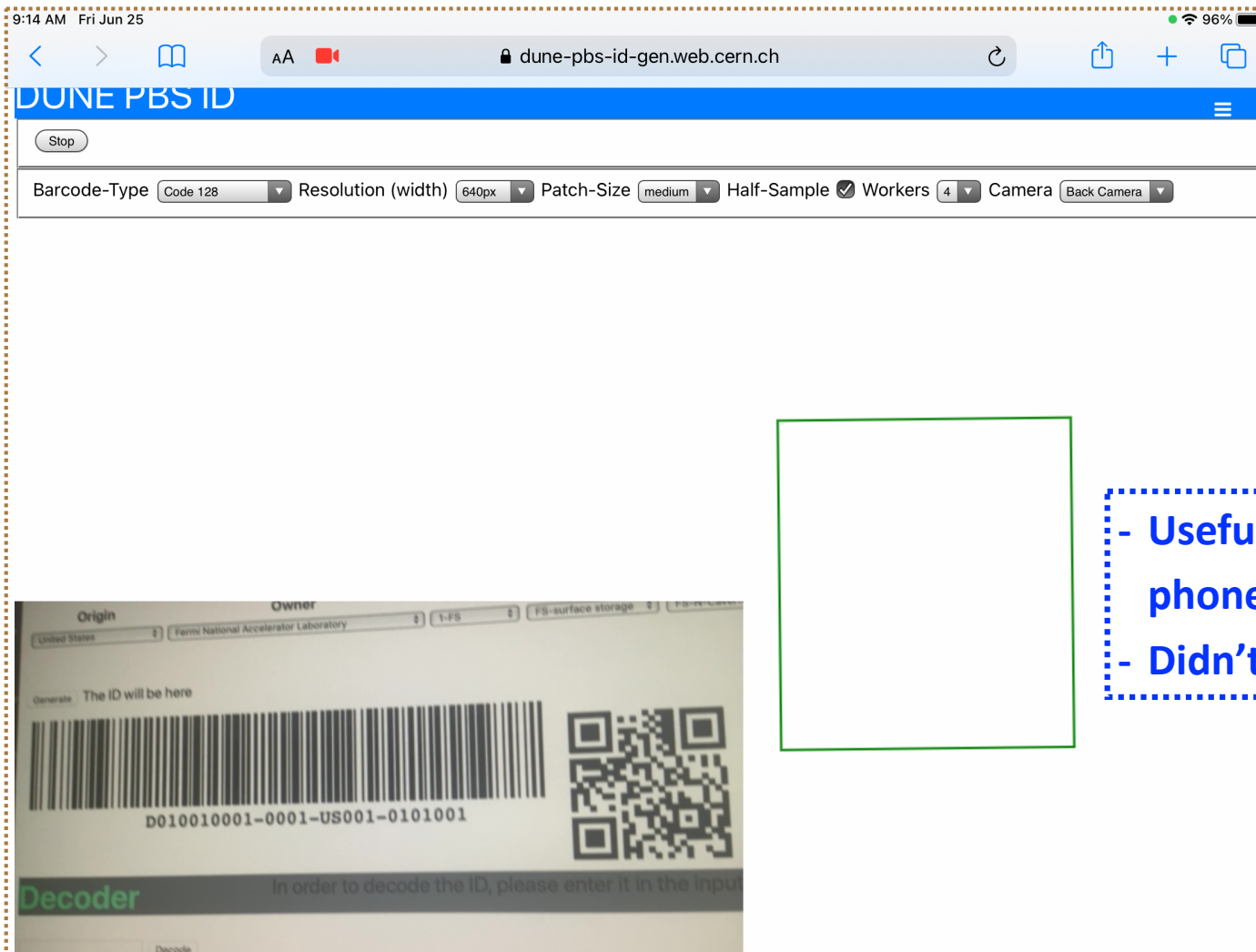
Decoder

In order to decode the ID, please enter it in the input field and click 'Decode'

Decode

Display a menu for "javascript:void(0)"

Barcode Scanner



- Useful feature, especially with your phone/iPad.
- Didn't work well with my iPad camera.

Aggregator

DUNE PBS ID



This page allows you to generate DUNE PBS ID with barcode and QR code, as well scan and decode barcode and QR code.

Generator

Click 'Decode'

Please select a file containing multiple IDs for upload:

Filename: no file selected

- Another useful feature:

- Accepts a local file with a list of IDs to generate the corresponding bar/QR codes.

- Not sure if the list needs to have separators, but didn't work either with or not.

Data entry

- This is where a generated ID(s) is entered into the DB.
- Not sure how the exact syntax is.

In this example, I seem to be able to enter (define) a new ItemType (0001) for SystemID = 01 (sys1) and SubsystemID = 001 (Cryogenics North).

- Need to be able to see the content of the DB to confirm.

DUNE PBS ID

This page allows you to enter data into database

Select data type
Item type

Enter data
"DUNE", 01, 001, 0001

Submit

Please enter the data in the following format:

One entry per line

Systems:

"name", system_id

Subsystems:

"name", system_id, subsystem_id

Item type:

"name", system_id, subsystem_id, item_type_id

Data inserted successfully

Close

A simple API is also available to enter an ID

- curl -v 'https://dune-pbs-id-gen.web.cern.ch/dune-pbs-id-gen/conn/dataentry.php?type=system&data="DUNE",01'
- Got "HTTP/1.1 200 OK" back, seems to be working.

"type" could be project, system, subsystem, or itemtype.

Summary

- The basic functionalities are there.
- Needs to fix & update some, though I understand this is just a test version.
- Overall I do like what I see in these GUIs.

But I believe most of us would like to talk to this DB remotely from command line.

Simple API is available. I tried some, but couldn't really confirm if it was working.

As George has already left CERN (I think), it is urgent to find someone to take over this task (developing/maintaining the DB & answering to my questions).

- I'm developing an app that runs on iPad, that writes/reads to/from the HWDB various contents.

I'm not sure how the exact workflow would be (see the next talk!), but for now am thinking something like;

1. User request an ID(s) to the PartsID DB within our app.
2. Enter contents to the HWDB with the ID(s) from our app.

- We can live with the current PHP API,

But it would be very helpful if it offers the same REST API functionality as the HWDB does.

10:18 AM Fri Jun 25 100%

Select 1st 3 columns: DUNE HVS CPA
FC
EW

Select Item Type: FR4 Frames: Main Support Bar : 20-A402
FR4 Frames: Upper Side Bar (LH) : 20-A404
FR4 Frames: Upper Side Bar (RH) : 20-A406
FR4 Frames: Intermediate Bar : 20-A408

Item Number (DEC) 0040 (≤ 65535)

Generated ID D060100010028

Generate Barcode

Generate QRcode

Project	DUNE (D)
System ID	HVS (06)
Subsystem ID	CPA (01)
Item Type ID	FR4 Frames: Main Support Bar : 20-A402 (0001)
Item Number	0028