

Data and management of a big facility's operation

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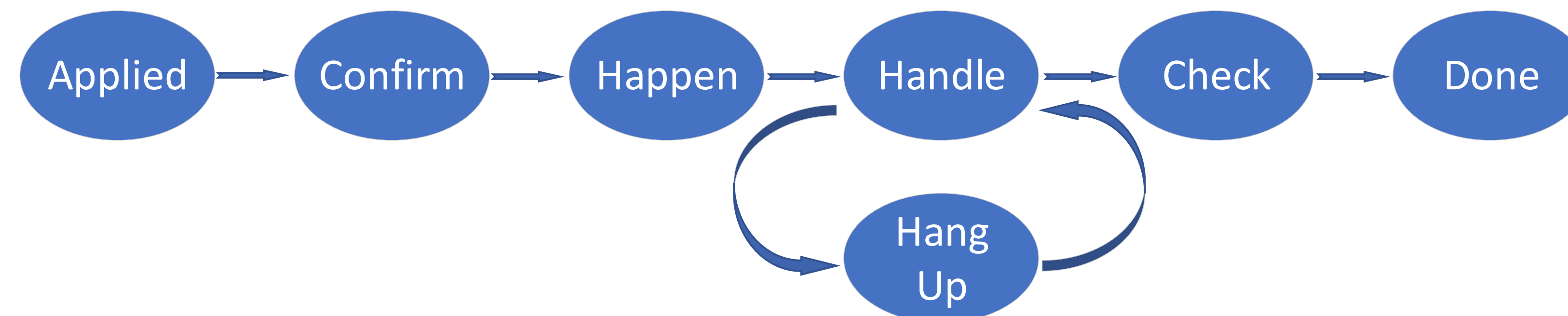
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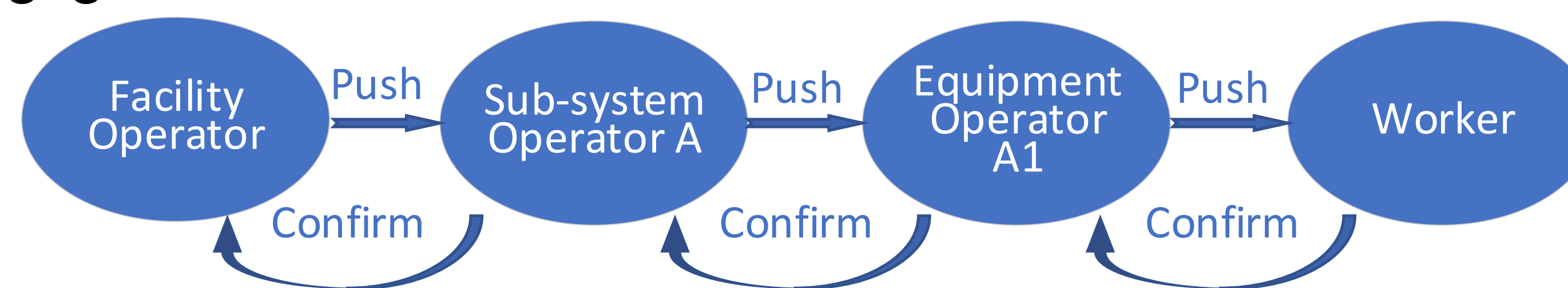
Abstract:

A big facility has big amount of sub-systems and equipment. It also has long lifetime, in which many events will happen and should be properly handled. Operation data and event process flow are the key words. This paper try to demonstrate the event process flow and how the data should be organized.

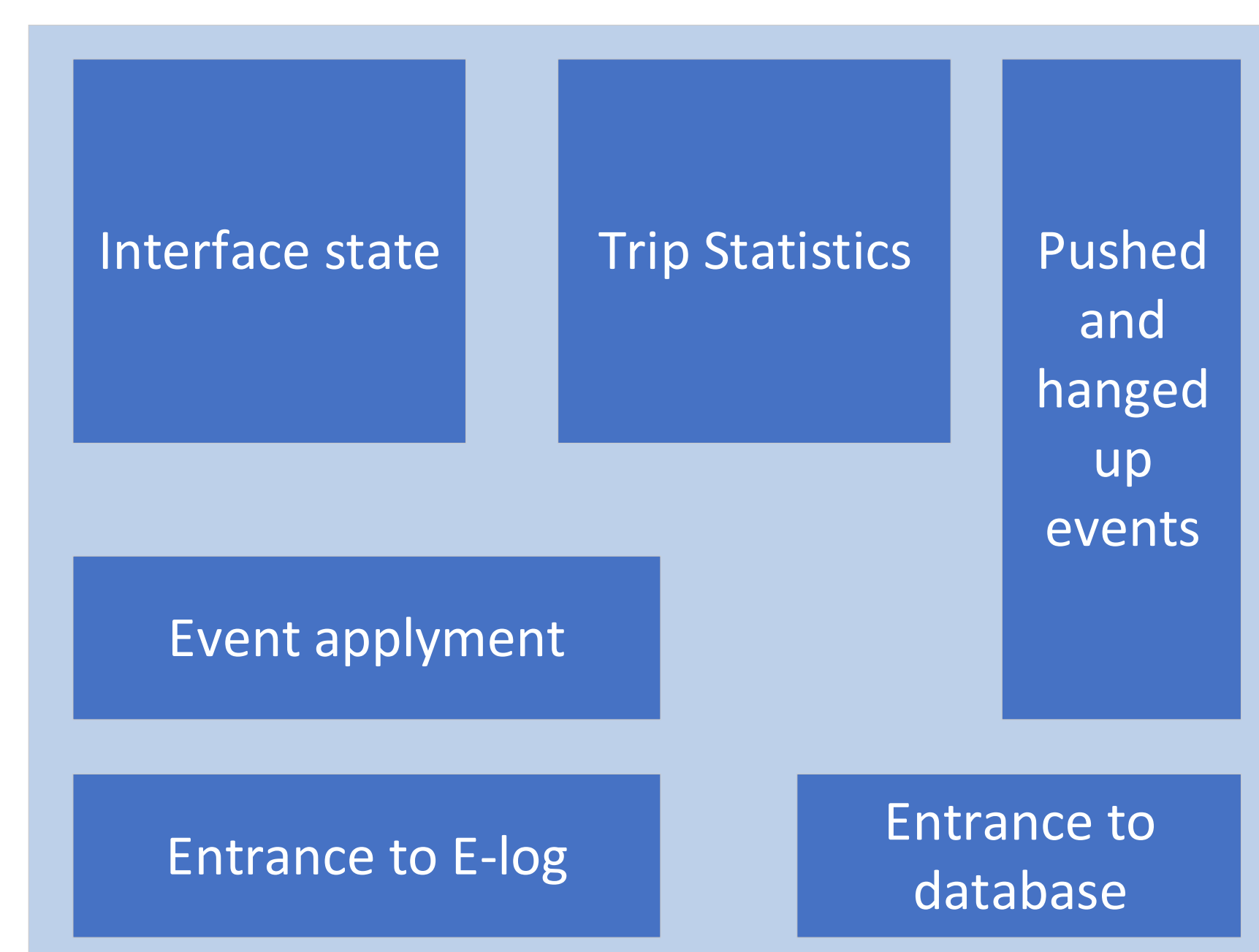
The operation of a big facility is managing of all kinds of events, for example one shift normal operation, trip, maintenance, emergency, upgrade, facility research etc. There are two kind of events, active and passive. Trip and emergency are passive and the other are active. Handling of two kinds of events follow the same flow with different entrance, which make all events close loop managed. Considering of the priority, events are divided two level, urgent and not urgent. Urgent event means facility can not run if not handled.



Generally speaking, there are four layers of people, facility operator, sub-system operator, equipment operator and professional worker. Two point should be noticed. First, layer means role instead of rank. Second, sufficient professional workers are most important, because of often being ignored.



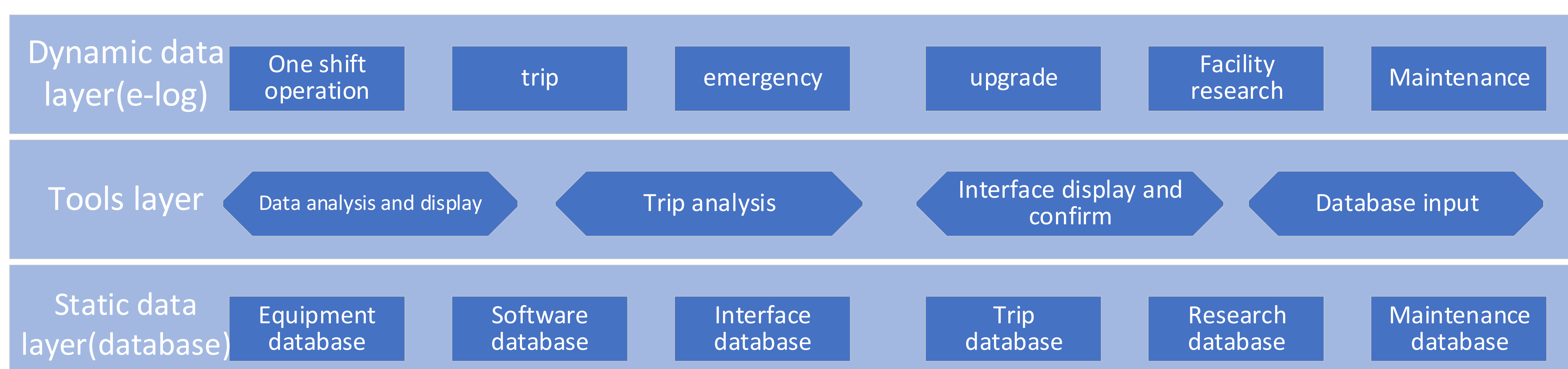
On the desktop of one operator six items should be always shown, interface state of own sub-system or equipment, pushed and hanged up events, trip statistical data of own subsystem or equipment, entrance to e-log, entrance to applied an event and entrance to find and display all kinds of operation data. What he should do every day is to handle the hanged up events from his own sub-system or pushed from others with the help from other information.



Interface data of one sub-system or equipment is the evidence of itself proper work state, also define maintenance or trip handling boundary. This also help operator judge the trip source and help maintenance smooth. No interface data, no proper operation.

During the long period of lifetime of a facility which has big amount of equipment ,there is big data, which should be well organized. No data, no operation. Not well organized data equal to dead data. There are two layers of data in a facility, dynamic data and static data. Dynamic data is stored in a e-log system and static data is stored in all kinds of database. Several software tools in tool layer link the dynamic and static data, which means static data should be upgraded gradually from dynamic data. It's better to upgrade the database automatically from e-log system if possible, which means the entrance to handling one event is single. This also means the input data to e-log data should have set labels, for example, event name, event priority, operator name, time, subsystem or equipment, relevant subsystem or equipment, detail description, etc.

Inside the equipment database, there are all parameter of the facility, sub-systems and equipment, including name, amount, No, test data, manual, maintenance, setting and all kinds of drawing. For example, spare parts amount can be easily shown by tool in tool layer from equipment database.



Close loop managing of difference events, single work platform, well organized and clear display data, well defined interface will make efficient operation of a big facility.