

Implementation of a Searching and Mapping Solution for Smart Manufacturing in Autodesk Inventor, an Industry 4.0 Approach

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Abstract. In order for a machine to be manufactured, first it must be planned and sketched. In a real-world scenario this usually includes several software applications that handle drawing, accounting, and storing documents or drawings. These software solutions are often separate and not connected with each other in any way, and the users have to do data entry twice. In this paper, the application specializes in connecting Autodesk Inventor and Autodesk Vault with Datalab's Pantheon. The application solves these problems is called "SearchParts" under Industry 4.0. It is consisted of two parts: real-time items search in Pantheon and mapping 3D models to an ID in Pantheon. The first part of the program can search for items in and online or offline state. This means that the items are cached locally and updated whenever the user can connect to the database server. The second part is mapping 3D parts modeled in Inventor and saved in Vault with the ID's from Pantheon. After the models are associated with the ID's they can be later re-used to avoid data entry over again. This is especially useful because each drawing in production is now associated with its digital version and can be used to add more metadata like picture of the physical part, video recording, etc.

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