Research Paper on CREO

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Abstract- **PTC Creo is the design software that was developed by PTC. PTC Creo also known as Pro/ENGINEER, it's 3D modelling software used in mechanical engineering design, manufacturing and in CAD drafting. Creo runs on Microsoft Windows and provide applications for 3D CAD parametric feature solid modelling, 3D direct modelling, 2D orthographic views, Finite Element Analysis and Simulation, Schematic design, technical illustrations, and viewing and visualization.**
PTC has developed by creo in 2009, and announced it using the code name project lightning at planet PTC live, in Las Vegas, in june 2010. In octomber 2010, PTC unveiled the product name for project lightning to be Creo. PTC released Creo 1.0 in june 2011, Creo 2.0 in march 2012, Creo 3.0 in june 2014, Creo 4.0 in December 2016, Creo 5.0 in march 2018. Creo apps are available in English, German, Russian, French, Italian, Spanish, Japanese, Korean, Chinese Simplified, and Chinese Traditional.

INTRODUCTION

Creo is a software or group of applications used for various purposes like 3D modelling, drafting, analysis, simulation, mechanism, animation, optimization, solver and more. CREO is powerful software which is a combination of various designing tools. It is popularly used by many leading manufacturing companies across the globe. It was designed by PTC (Parametric Technology Corporation). CREO works with combination of various applications like

- Creo Parametric
- Creo simulate
- Creo Directs
- Creo Layout
- Creo Options Modeler

Every CREO application serves unique purpose of product development. Hence one CREO software can handle every aspect of product design like concept development, designing and analysis. It also supports your communication with your clients, manufacturers or technical publication

FEATURES OF CREO
CREO works on various stages of product development. Hence CREO is useful in every department of the company. Adding to it, there are four prominent features which defines the usability of this software. They are

1. Flexibility
CREO offers scalable access to designers who are involved in any part of product development. On the other hand, specific CREO application helps developers, who are a part of only one particular process. So CREO can also be customized to serve single process and also be used, with the same efficiency, to serve the needs of the entire process.

2. Interoperability
As every CREO application is designed under the same roof, the communication between every application is very smooth. There are no data lags when any application is interacting with other application, which saves ample amount of designers time. Hence you can pass the work from one process to other and the same designed will be modified to be made perfect.

3. Combined Benefits Of Both CAD Modeling Approach
Working on CREO means using both the CAD modeling approaches i.e. parametric and direct modeling. Hence you achieve two goals with a single software. Designers can enjoy the control provides by parametric modeling on one hand and on the other hand, they can also enjoy the speed and flexibility of direct modeling.

4.Operating On Multi-CAD Data

CREO can easily work on any CAD data source. Hence designers can save their lot of time and efforts while using CREO and operating on various platforms. It also eliminates the minor possibility of human errors while redesigning the same design. Thus it is helpful for both the designers and the organization.

Thus CREO is a software solution which helps company to design products at a comparatively lower cost and in less time. On account of this usability of CREO the demand for professionals who can operate on CREO has also increased. CREO certification is one of the best way, where a professional can demonstrate his expertise on CREO. Moreover CREO certification also helps the professional to grow on both professional and personal level. Hence the demand for CREO certification has typically increased among the design engineers and other designing graduates.

DIFFERENCE BETWEEN PRO-E & CREO
Both the software packages are developed by PTC. Both of them are design and modelling software package used by variety of industries from auto mobile to product development.

Major differences is that Creo now superseded the Pro-E or Creo is advanced version of Pro-E. Some of the limitations are now relaxed in Creo and is made user friendly like its other counterparts Solidworks or Inventor.

Anyway Creo basic modelling module remains same as Pro-E. Much Changes are seen only in drawing mode.

Also for people using Windchill with Creo should note that Pro-E does not support higher version of Windchill i.e. WC- 10

USE of Creo in Mechanical Engineering
Engineering is a vast area to deal with. Let me take an example for explanation
Let there is a company want to launch a new type of chair in the market. First a survey will be done about the taste of customers, features required by customers, and number of potential customer available in that market. This stage is called planning stage. After this stage comes the product design stage with include the designing the chair, to manufacture, in CAD/CAM software, keeping in mind the aesthetic appeal to customer. After design comes the

manufacturing stage where the product actually take its shape. After manufacturing comes the stage of inspection and testing where a defective products are removed from the good quality product and only good quality product is allowed to reach customers.

Last stage include the service after sales

In all the stages listed above, a mechanical engineer is essential element for the completion of the stage. Designing stage is the stage which require the CAD/CAM/CAE software like CREO for the product design. Previously, when CAD/CAM software were not in the market, it was very costly to design and then redesign the product for improvement. So CAD software has become the integral part of the designing stage and a separate R&D department are establish in companies for designing and improvement purpose. CAM (computer aided manufacturing) software is used for the Automation of manufacturing process.

CERO is a scalable, interoperable suite of product design software and probably one of the most advance and popular one. But there are many more available in market like SOLIDWORKS, SOLIDEDGE, AUTODESK, NX, CATIA, etc. It is definitively an advantage to learn these software as they give you an edge during competition when you are looking for job.

COMPANIES USING CREO IN INDIA AND IN THE WORLD
NATIONAL
• HCL Technologies Limited , (Chennai, India)
• Banco Products (India) Ltd (Vadodara, India)
• Shivam Technologies Pvt Ltd (Pune, India)
• Macmet Technologies Pvt Ltd (Bangalore, India)
• Tata Technologies (Pune, India)
• Linkwell Telesystems Private Limited (Hyderabad / Secunderabad, India)
• Eaton Technologies Private Limited (Pune, India)
• Varcha Engineering Services Inc (Coimbatore, India)
• Cargotec Engineering, India

- Harita TVS Technologies Limited - Bangalore, Pune
- XLNTIDEA INC - Hyderabad / Secunderabad
- Infomas - Bangalore
- Rapid Global Business Solutions India (P)Ltd - Bangalore
- Design desk , chennai
- Dsm Soft , Chennai
- Fci technology , tidal park chennai
- Audco vavles , india
- Rane trw , chennai
- Brakes india , india
- Hindustan aeronautical limited , chennai

INTERNATIONAL
- Tafe
- Baker Engineering Inc , Us
- Stanley
- Stanmore Implants Us
- Satyam engineering servies
- Renault
- Essential Engineering Solutions
- Altech Star Solutions Pvt. Ltd.
- Infosys
- Revo Trading Co . Ltd., - Japan
- Satyam-Venture Engineering Services Pvt. Ltd. - Hyderabad / Secunderabad, Hong Kong
- Mahindra Engineering Services Ltd. - Chennai, United Kingdom (U.K)
- A Client of TEAM OM HR PROJECTIONS PVT LTD - (Dubai/ UAE)
- IZI Medcial Products - USA
- Creston Electronics - USA
- Custom Fire Apparatus - USA
- Finelite, Inc - USA
- HoMedics - USA
- HS Design, Inc. - USA
- Otto Bock Healthcare - USA
- ITW GSE Group - USA
- AAR Corp. - USA
- Rolls-Royce North America - USA
- GGS Technical Publication Services - USA
- URS Corporation - USA
- General Atomics - USA
- Cosmos Manufacturing, Inc. - USA
- Custom Sensors & Technologies – USA

USEFUL WEBSITES TO LEARN CREO
- Ventanus training
- Learning exchange
- Design engineer
- Aeronautics
- Finite Element Methods
- Computational Fluid Dynamic

REFERENCE

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