Simulation Specialist Job Description

To effectively support Final Assembly Manufacturing work, this job description seeks to set out the expertise & experience required for use of UNIX based eM-Assembler (Robcad) and the NT based eM-Power range of products produced by Technomatix and Jack Ergonomic tools produced by UGS & certain other support systems.

The successful applicant will be expected to be competent in & utilise effectively a number of support tools including:

UNIX

An understanding of UNIX is required that is sufficient to allow the movement and modification of permissions and ownership of files.

VisMockup

Minimum techniques known: tree manipulation, exporting to Robcad of data, grouping, snapshots, sessions and exporting and importing of data.

IDEAS

Minimum techniques known: Importing and exporting of data, use of IMI bridge and database manipulation via Metaphase and the TDM. Basic modelling skills.

CATIA

Minimum techniques known: importing and exporting of data and database manipulation. Basic modelling skills.

MPEG and Image Manipulation

Some experience with manipulating images into other formats and using MPEG players is required.

Microsoft Office

The ability to communicate effectively and produce reporting documents using Microsoft Office products. The ability to use email and the internet will be required.

C3P Community

An understanding of the principles of data sharing in the engineering community and the concepts of, and relationships between, design and manufacturing engineering is essential. Simulators will be expected to demonstrate a pro-active attitude to the acquisition of data and information in order to create timely and effective simulation work. As this type of work is highly developmental, simulators should be prepared to promote and encourage the use of these techniques within the engineering communities.

Simulation Toolsets and Competencies

The basic acceptable requirement for competency in the use of eMAssembler (Robcad) / eM-Power products is full and complete knowledge in the use of the following modules:

Basic Robcad Simulation, eM-Planner, Modelling, Paths, Robotic concepts in general. A comprehensive background in manufacturing is essential. The ability to interpret engineering drawings/3d models, sequence documentation, process documentation, is essential.

Mechanical Simulations

This applies to mechanism simulation, for example an assistor mechanism or manipulator. It also covers unique tooling or carrier devices.

Kinematic elements that are added to models should fully define the motion of the device. Trouble should be taken to establish the proper motion characteristics (joint speeds, limits, following factors, accelerations and decelerations) of the device rather than use the default settings in Robcad. Cycle time analysis where appropriate should be made using the correct controller modules.

All interfaces between mechanism and other mechanisms/components (for example gripper to manipulator or gripper to component system) should be analysed for clashes as well as functionality.

Factory Simulations

The simulator will be responsible for gathering from the relevant parties all data for the factory simulation. This includes but is not limited to:

Layouts
Process documentation
Sequencing data
Tooling information
Hand tool models
Assistor mechanisms
Line motion characteristics
End effector information and motion characteristics

A clear understanding of the output expectations of each factory simulation should be made. This understanding should take into account the engineering needs of the study and any technology development requirements of core engineering.

Outputs for human simulations integrated into factory studies should also take into consideration the requirements of the ergonomics department.
Within reason, every effort should be made to maintain the concurrency of data within simulations.

Qualifications

Candidates should have or be actively studying for a Bachelor's degree in Engineering with at least 3 years work experience in a manufacturing automotive environment.

Skills

Possess excellent leadership & communication skills coupled with strong business acumen

Must have the ability to work in a team environment effectively with program supervisors & engineers
Possess excellent analytical, problem solving ability and work planning.
Proficient in Simulation application software as detailed above.

This position will require business travel to support program teams.