

GAME DEVELOPMENT FOR PRODUCTION MANAGEMENT

A thesis submitted in partial fulfilment of the requirement for the award
of degree of

BACHELOR OF TECHNOLOGY
in
MECHANICAL ENGINEERING

By

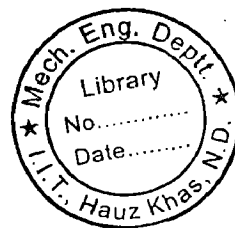
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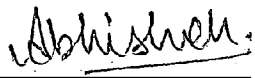


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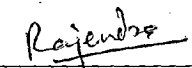
CERTIFICATES

By student(s)

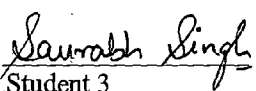
We, Abhishek, Rajendra Ram and Saurabh Singh, are submitting this report detailing work done during 2nd semester 2005-2006 in course ME492S *Major Project Part 2*. We have written this report and all material taken from other sources (books, manuals, internet, other theses, etc.) has been fully acknowledged. This report accurately reflects all the work done by us.



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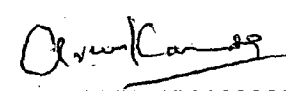


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ABSTRACT

The project is an attempt to bridge the gap between the theoretical work on 'Production Planning' and the application of these theories in a real life situation. Over a span of one semester, the project started with the study of the basics of Supply Chain Management and Production Planning on virtual manufacturing. Along with this we also studied the book 'Modern Production Management' – John Wiley Publications, Year 1983, by Elwood S. Buffa for the development of the game. This book provided the useful information on Discrete Event Simulation and helped to bring out the step by step procedure to carry out the simulation for running the game. This involved study of the Monte Carlo Method for carrying out the simulation by random generation of the numbers. Then we listed out the factors that affected the supply chain processes. Then we went for the study of the models previously developed for understanding of Production Planning.

After this we have taken the problem from the realistic industry which dealt with the repairing of a machine which breakdowns due to the failure of the bearings. There are three bearings in the machine which are identical. The probability distribution of failure of the bearings was taken from the logbook of the machine. There is one repairperson for the repair of the machine whenever breakdown of the machine happens due to the failure of the bearings. The repairperson also has delay time in coming for repair work.

This problem is given the shape of the game and through various cost calculation parameters; the learning outcome of the game is shown. The game is then simulated in MatLab, which establishes a very interesting interface with the player. The player is treated as the Production Manager of the enterprise. Player can run the game and see the effect of cost calculation as the game is run for various number of machine hour. The player is also given the privilege of doing Sensitivity analysis, i.e. he can change any of the parameters and see its implications on the cost calculation.

Overall, the Game is aimed to be an important learning tool for students and at educational institutions.

Keywords: Supply Chain, Monte Carlo Method, Production Planning, Sensitivity Analysis

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2. Pre-production. Story Development Sequence Breakdown Rough Layout. First Unit Previs Sequencer Steps. Rough Layout Cleanup. Defining Levels Level Sequences Fortnite Level Sequences File and Folder Organisation Naming Conventions Level Visibility Level Management. 3. Production. Production. Although the system was originally designed for game development, Unreal Engine's centralized approach to data management lends itself perfectly to animation production. Developmental Model. During production, artists are constantly saving existing files with new information and/or creating new files that replace older ones. Management Training. Acquire Talent. Onsite Training. IP Development for Production. A 10-week course guiding you through how to develop and pitch a compelling and visually cohesive world. Request syllabus. Syllabus request for: IP Development for Production. By: Mark Molnar & Pixoloid Studios. View Syllabus. Design & Production delivers game designers, level designers, narrative designers, and producers for the gaming industries, including console, mobile, PC, and board games. This study path teaches you concept development, game design, game production, business management, interactive storytelling, and basic programming and computer graphics. Design & Production is very popular with students who have leadership and conceptual aspirations for the games industry and who have strong communication skills. Overview study years. Year 1: Physical prototyping, team management, the essentials of