Boeing Optimization Research Requirements Document

Michael Chan, Brandon To, Mike Truong

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Abstract

A focused workforce is able to accomplish multiple task within the time allocated. The direction of this project is to define a plan that determines the most efficient way for salaried Boeing employees to get to work on time to minimize the disruption to both their production and personal lives. This project will be experimental using the technique of a case study to examine Boeing employees over a time duration of two work days. Our plan is to use data collection techniques and analytics to develop an algorithm that can be used as demands change. The data collection involves evaluating instances that can be improved within employee work schedules with the use of surveys, questionnaires, observation, and records. Combining faculty documents with the data obtained from the employees of Boeing Everett the findings will determine a method to improve efficiency. At length the results will boost productivity for Boeing Everett.

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BOEING OPTIMIZATION SSRS
TABLE OF CONTENTS

1 Introduction

Our project is researched based and is bound to change many times over its course. At this point no materials have been acquired to allow much progression in it so for now the document is small.

1.1 PURPOSE

To outline what will be done to collect data and any other related processes relating to the research conducted for the Boeing Everett Site. This document will be aimed at Boeing faculty not only for engineers, but also managers and various other researchers.

1.2 SCOPE

The project will produce a functioning algorithm for optimizing salaried worker's arrival and departure times. The algorithm and any other acquired research data will be presented by white paper. This product will help Boeing managers and/or resource management find optimal times related to salaried workers. Benefits, objectives, goals: Benefits: Increase productive company time while on site, decrease surges of traffic before and after work hours around the site which will relieve traffic congestion for anyone on the road. The goal of this project is to create an algorithm that enables these benefits when applied, create a presentable research document that Boeing's management can use to improve work flow.

1.3 DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

Term or Acronym	Definition
Resource Management	Process of using and managing an operation's use of labor, equipment and other resources. In our research we focus mainly on the use of time.

1.4 REFERENCES

None at the moment.

1.5 OVERVIEW AND RESTRICTIONS

The rest of this document will be used to discuss a few sections in detail.
    2.1 describes the prokect's perspective compared to other related projects.
    2.2 goes over the project's functionality and some factors that come into play.
    2.3 goes over how the user will interact with the product.
    2.4 describes product constraints.
    2.5 lists the assumptions and dependencies.

2 OVERALL DESCRIPTION

2.1 PRODUCT PERSPECTIVE

Our research is the first attempt of its kind at Boeing and is experimental and mostly independent. However, optimization research as we are doing is not new, many businesses have potentially performed research similar to this before but in our instance, we are going to be the first to perform it on the Everett facility.

2.2 PRODUCT FUNCTIONS

The intention of this algorithm is to sort and arrange the start and stop times of the salaried employees at Boeing based on location, mode of commuting, and the programs that they are participating in. Using these factors, our algorithm should be able to output the most efficient times for a specified employee.

2.3 USER CHARACTERISTICS

Since what our team is currently designing is an algorithm rather than software, this cannot be determined at the moment in terms of maintainability, security, and portability. The expected users of the product are going to be management level employees at Boeing and any researchers interested in the results. No specific level of education is expected of the user.

2.4 CONSTRAINTS

There are no software or hardware constraints at this time.

2.5 ASSUMPTIONS AND DEPENDENCIES

Our data will have to assume that works are on normal work schedules and any holiday schedules or breaks will not be counted.

3 SPECIFIC REQUIREMENTS

Most of the sections in here are for software requirements and do not apply to a research based project. We will withhold from filling this section out until we know what format is required of us.