



# UNIVERSITI MALAYA

**WIA1002 DATA STRUCTURE**  
**PROJECT 2 “ALWAYS ON TIME DELIVERY”**  
**MANAGERIAL REPORT**

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**COURSE OCCURRENCE** : 7  
**GROUP NAME** : JAVA SLAYER

STUDENT NAME	MATRIC NO.
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## **1.0 Group Formation**

Since the lecturer had informed us early on that we would have a project, we decided to form our group early on to save time and to focus more on the project. As the time for registration came we registered our group at that very instant and started working on the project.

The group consists of four members, with Lim as our team leader, all from tutorial group 7. Lim, Ho, and Ali are from the Department of Artificial Intelligence, while Goh is from the Department of Software Engineering. This is the first time we collaborate to work on a programming-related project.

## **2.0 Role Assignments**

Group Members	Lim	Goh	Ho	Ali
<b>Basic Requirements</b>				
Basic Simulation				
Greedy Simulation				
MCTS Simulation				
<b>Extra Features</b>				
Graphical User Interface				
Music				
Color				
Parallelism (Threading)				
Heterogeneous Vehicle Capacity				
<b>Report Writing</b>				
Managerial Report				
Technical Report				

Initially, each of us was assigned specifically a feature to code for, which is Basic simulation by Goh, Greedy simulation by Lim, and MCTS simulation by Ho and Ali. However, Lim and Goh finished up quickly and helped to complete the code for MCTS as well.

Moreover, to implement extra features, we need a thorough understanding of the other programs done so that they could be manipulated to fit into the modified program. Therefore, undoubtedly everyone took part in the whole program as much as they possibly could.

### **3.0 Project Timeline**

<b>Week</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>Midsem Break</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>
Group formation								
Preliminary research								
Discussion and task distribution								
Detailed research								
Programming								
Code compilation and execution								
Bug fixes and testing								
Report writing								
Project Submission								

## **4.0 Problems Faced and Solutions:**

### **1. Understanding the problem**

- Initially, it was hard to understand the problem as it was a completely new topic and the course itself delved into the basics only.
- To overcome it, we have some self-learning for extra knowledge by watching countless Youtube Videos and discussing our findings.

### **2. Implementing the problem**

- Understanding and implementing are two completely different things, once we had a thorough understanding of the problem we started with the implementation with the aid of the lecture notes and the textbook.
- All that could be done is never-ending trials and errors.

### **3. Sharing the code amongst all the members and keeping track of changes**

- Copy-pasting code on WhatsApp was impractical and led to a lot of confusion and wasted time.
- Ali had proposed to use Git and GitHub for version control and code sharing. The Platform also allowed us to make branches which made working and testing on different features much easier.

## **5.0 Other Issues**

### **1. Dealing with different time zones**

- Ali is located in his own country in a GMT+3 time zone, which is five hours behind Malaysia's GMT+8 time zone.
- To tackle this issue we decided to have the meeting at a time which would be convenient for everyone. This however led to fewer meetings taking place, thereby we resorted to a hybrid approach of using meeting and messaging on WhatsApp.

### **2. Time management**

- Since DS is not the only subject we are taking this semester, we had to carefully manage our time between this project and other projects in different courses. To make sure consistent progress on the project, we decided to dedicate a certain number of hours to the project every week.

### **4. Communicating online decreases efficiency and clarity**

- Everyone needs a thorough understanding of the whole program which consists of codes from everyone. It consumed more time to understand the coding of the others via online sharing.

### **5. Difficulties in understanding the requirements of the project**

- The person in charge of the NeverOnTime Sdn. Bhd. Github account was not fast to respond due to some factors. We will raise an issue on Github for inquiries about the project and check it every once in a while to notice his reply as soon as possible.