

**NATIONAL INSTITUTE OF BUSINESS MANAGEMENT  
SCHOOL OF COMPUTING AND ENGINEERING  
HIGHER NATIONAL DIPLOMA IN SOFTWARE ENGINEERING  
KANDY  
24.1F**

**ROBOTICS PROJECT PROPOSAL**

**LIQUID LEVEL DETECT SYSTEM**

**SUBMITTED BY:**

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## **PROBLEM STATEMENT**

Accurate and effective liquid detection is essential in many sectors and applications, from protecting safety and security in delicate settings to guaranteeing product quality in manufacturing operations. Rapid liquid identification and analysis is essential for operational effectiveness as well as regulatory compliance. This is made possible by sophisticated sensing technology and reliable detection techniques. The importance of liquid detection is examined in this introduction, emphasizing its critical role in contemporary technical breakthroughs and practical applications.

Beverage companies have major issues with measuring the level of portion that should be filled in bottles by workers, this will affect the company's reputation and will also lead to destruction of the company.

## **SOLUTION**

Solution for this specific problem is to automate the process, it uses sensors to measure the portion to certain limit, if the portion is on the selected measurement it will pass out, if the measurement of the portion subceed the conveyor belt will be stopped, and a piston will transfer the bottle to another conveyor belt and will transfer it to the filling station, after the transfer process it will begin the default process.

## **Reason to implementing this system**

We are implementing this system to reduce the Discomforts and increase accuracy for the company.

## **BUDGET**

<b>MATERIALS</b>	<b>COST</b>
IR sensors	LKR 1200/=
Buzzer	LKR 100/=
Servo motor	LKR 1200/=
Capacitive Proximitive Sensor	LKR 1500/=
Arduino uno	LKR 4000/=
Resisters(330ohm/10kohm)	LKR 100/=
LED(red/yellow/green)	LKR 200/=
Bread Board	LKR 700/=
Jumpa Wires(M-M/F-M/F-F)	LKR 500/=
DC Motors	LKR 500/=
Switch	LKR 100/=
Piston	LKR 5000/=
Sheets	LKR 1000/=
<b>Total=</b>	<b>LKR 16100/=</b>

## GANTT CHART

	June 01 - June 14	June 15 - June 16	June 17 – June 19	June 20 – June 26	June 28 – June 30	July 1 – July 17	July 20 – July 31
<b>PLANNING</b>							
Discuss the topic							
<b>ANALYZING</b>							
Identify components and gathering							
<b>DESIGN</b>							
Designing the prototype							
<b>DEVELOPMENT</b>							
Start to build the project							
<b>IMPLEMENTATION</b>							
Develop the project features							
<b>SUBMIT THE PROJECT REPORT</b>							