CAPSTONE PROJECT AIDI 2005-02

RATIONALE STATEMENT

SUBMITTED TO:

MARCOS B

BY (GROUP 4)

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**ARTIFACT**: IMAGE CLASSIFICATION FOR GROCERY STORE

THIS PROJECT WAS DESIGNED TO SERVE THE CUSTOMERS AS WELL AS MANAGEMENT OF GROCERY STORE TO FASTER TRANSACTIONS AND AS WELL AS FASTER INVENTORY MANAGEMENT.

**CONTEXT**:

THIS PROJECTS GOAL IS TO HAVE A MOBILE PHONE-BASED IMAGE CLASSIFICATION USING DEEP LEARNING THIS ALLOWS EMPLOYEES TO TAKE PICTURES OF PRODUCT IN THE STORE WHENEVER THEY WANT TO STOCK IT UP AND THE APP IN BACKGROUND UPDATE THE CLOUD DATABASE INVENTORY. THEN WHEN CUSTOMERS ARE CHECKING OUT, THEY ALSO TAKE ANOTHER PICTURE THAT REMOVES STOCK FROM THIS SAME DATABASE AND SIMULTANEOUSLY THE CUSTOMER’S CART WILL BE UPDATED AUTOMATICALLY AND MAKES IT EASIER FOR THE CUSTOMER TO CHECKOUT. THIS GIVES THE BENEFIT OF EASY INVENTORY MANAGEMENT TO STORE OWNERS AND MANAGERS AS WELL AS CUSTOMERS

**IMPACT**:

THIS PROJECT WOULD HAVE A GREAT IMPACT IN THE CURRENT MARKET, FOR EXAMPLE AS WHEN WE SEE IN A TYPICAL WALMART STORE EMPLOYEES AND CUSTOMERS THEY SPEND A LOT OF TIME ON UPDATING THE INVENTORY AND CUSTOMERS CHECKING BARCODES FOR PRICES AND WAITING IN THE QUEUE FOR A LONG TIME TO CHECKOUT AGAIN BY THE EMPLOYEES. SO OUR SYSTEM MAKES IT EASIER, FAST, RELIABLE TO THE CUSTOMERS AS WELL AS EMPLOYEES

**ALIGNMENT**:

FOR THIS PROJECT WE HAVE A SERIES OF STEPS TO CREATE AND EXECUTE

FIRST, WE ARE GOING TO CREATE A MOBILE APP (IOS OR ANDROID) AND WEBPAGE WITH INVENTORY SIMULTANEOUSLY BY OUR TEAM MEMBERS. THEN WE ARE GOING TO WRITE THE MACHINE LEARNING ALGORITHM FOR IMAGE CLASSIFICATION WHICH WE ARE GOING TO INTEGRATE IT WITH THE APP LATER. NOW WE COME INTO THE TESTING PHASE WHERE WE TEST IT SEVERAL TIME TILL WE MAKE SURE THAT EVERYTHING PROPERLY. NOW WE ARE GOING TO POOL ALL THE RESOURCES THAT WE CREATED, GATHERED AND ADOPTED THEN WE ARE GOING TO EXECUTE OUR BRAINCHILD.

**KPI:**

1. **ACCURACY OF IMAGE RECOGNITION**

THE IMAGE RECOGNITION MUST BE HIGHLY ACCURATE SO THAT THE INTERCEPTED OBJECT TO MATCH WITH ACTUAL OBJECT SCANNED. THIS CAN BE MEASURED WITH METRICS LIKE F1 SCORE AND ACCURACY SCORE.

1. **INVENTORY ACCURACY**

THE BUSINESS OWNER MUST BE ABLE TO MANAGE THE INVENTORY WITH THE UPDATED STOCK INFORMATION. THE ACCURACY OF THIS IS INFORMATION IS MEASURED WITH PERFORMANCE METRICS LIKE ACCURACY SCORE.

THANK YOU