Exploring AI in Education and Manufacturing

Welcome to our presentation on the practical applications of Artificial Intelligence, focusing on our projects from the AI Bootcamp. We will showcase how we leveraged AI in both educational and manufacturing sectors, providing a glimpse into real-world AI solutions and our learning journey.

by likho Pikelela

Introduction: AI in Practice

AI Fundamentals

Explore core concepts

Educational Bot
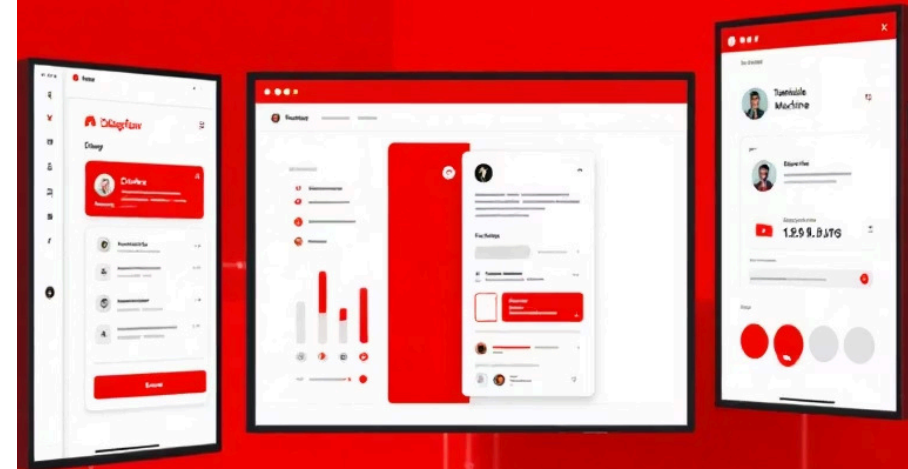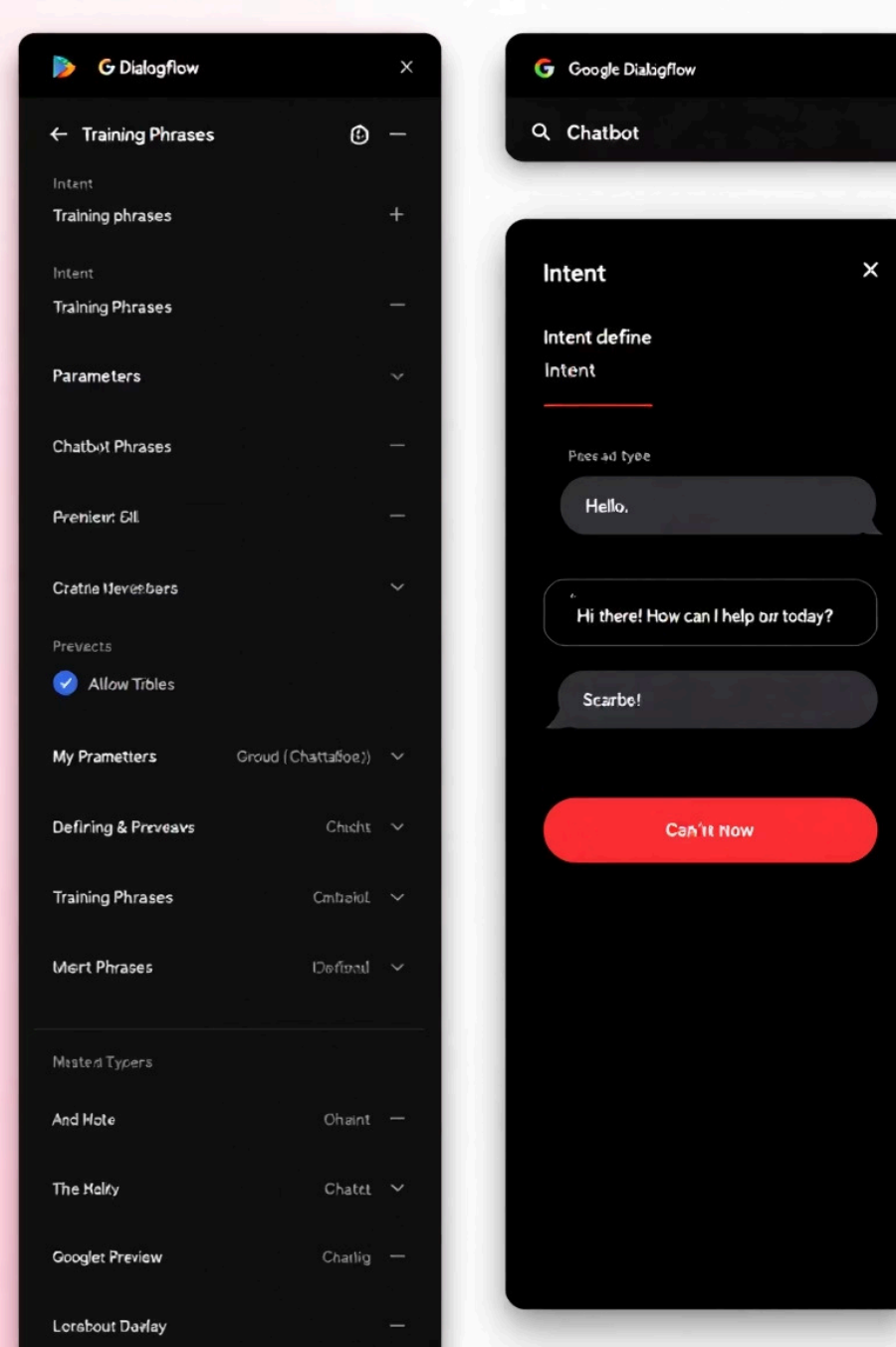
Learn via chatbot

Manufacturing Use

Defect detection system

Practical Tools

Using Dialogflow, Figma, Teachable Machine

Week 1: IT Fundamentals Chatbot

Conversational AI

Engaging learning experience

Dialogflow Platform

Intuitive chatbot development

AI Basics

Demystifying complex concepts

Chatbot Features: Interactive Learning

? Guided Q&A

Interactive learning experience

🧠 AI vs ML vs DL

Key distinctions clarified

💬 Conversational Flow

User-friendly interface

Made with GAMMA

Week 1: Key Learnings and Outcomes
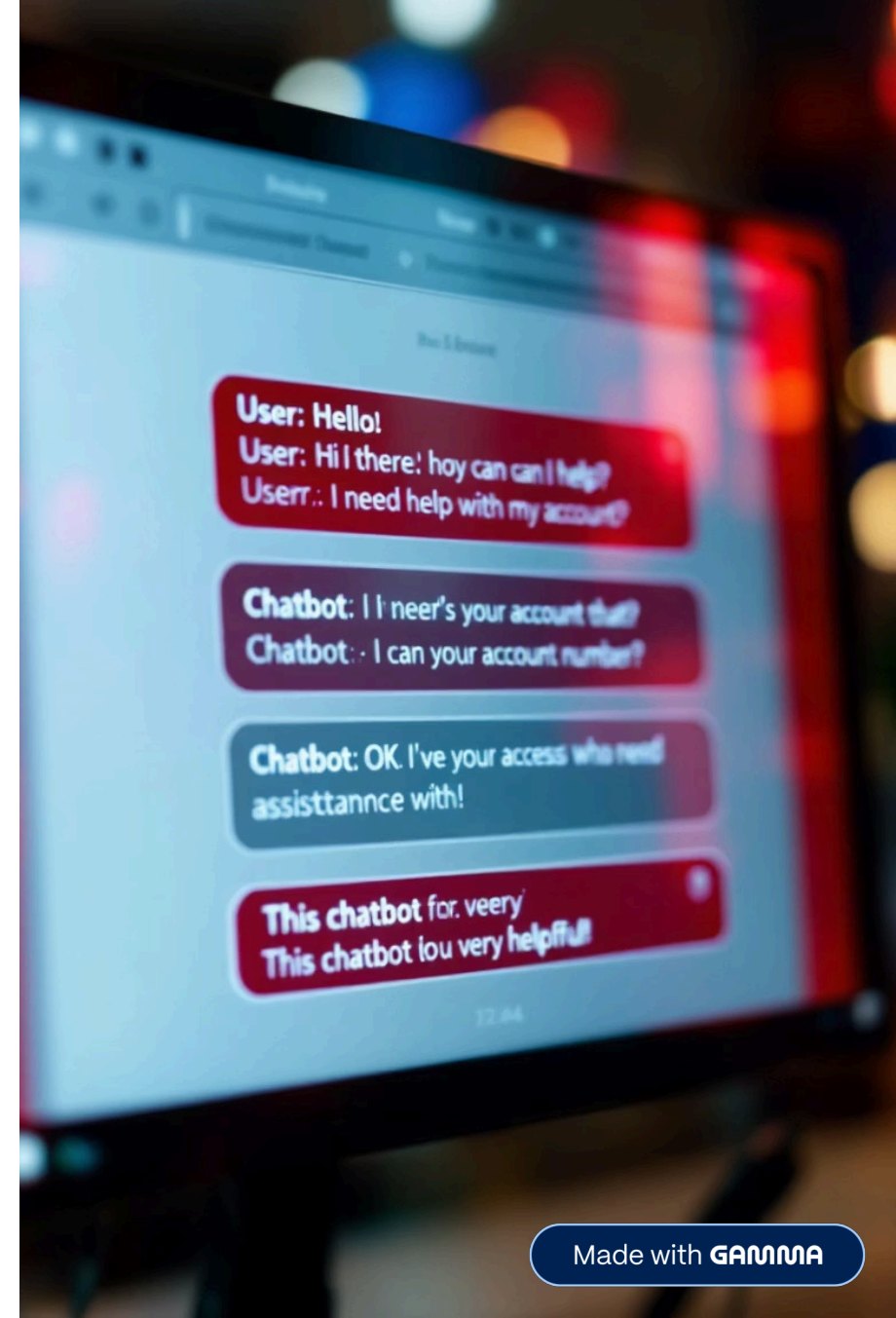
NLP Understanding

Enhanced knowledge of Natural Language Processing and Dialogflow intents.

Conversation Design

Gained experience in designing engaging and interactive conversations.

Team Collaboration

Improved teamwork and rapid prototyping skills.

Week 2: AI Tool for Manufacturing

Problem

Manual defect inspection is slow and error-prone.

Solution

AI tool for automated defect detection.

Our second project addressed a critical need in the manufacturing sector: automated quality control. We developed an AI tool prototype to classify products, specifically cups, as defective or non-defective, aiming to reduce manual errors and save time.

Tool Design: Figma Mock-Up

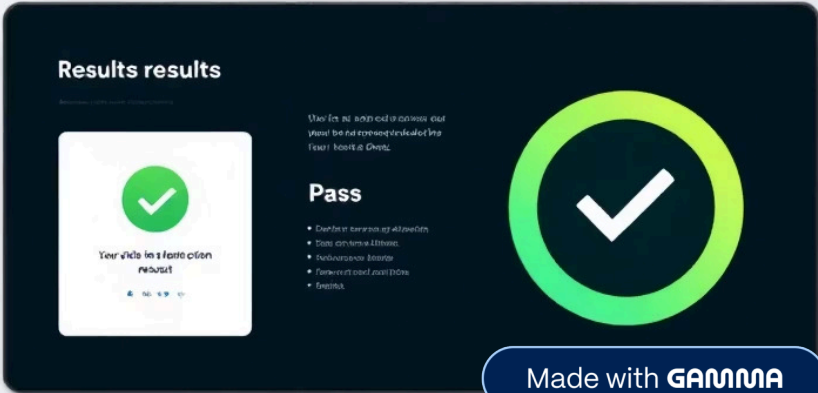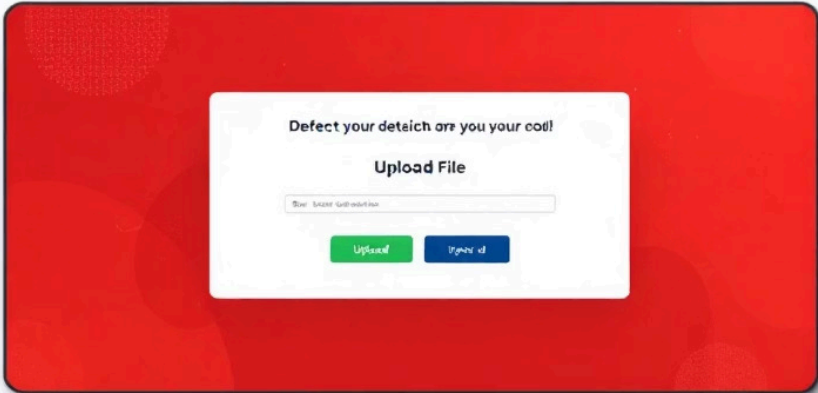
1
Upload Image
Simple interface

2
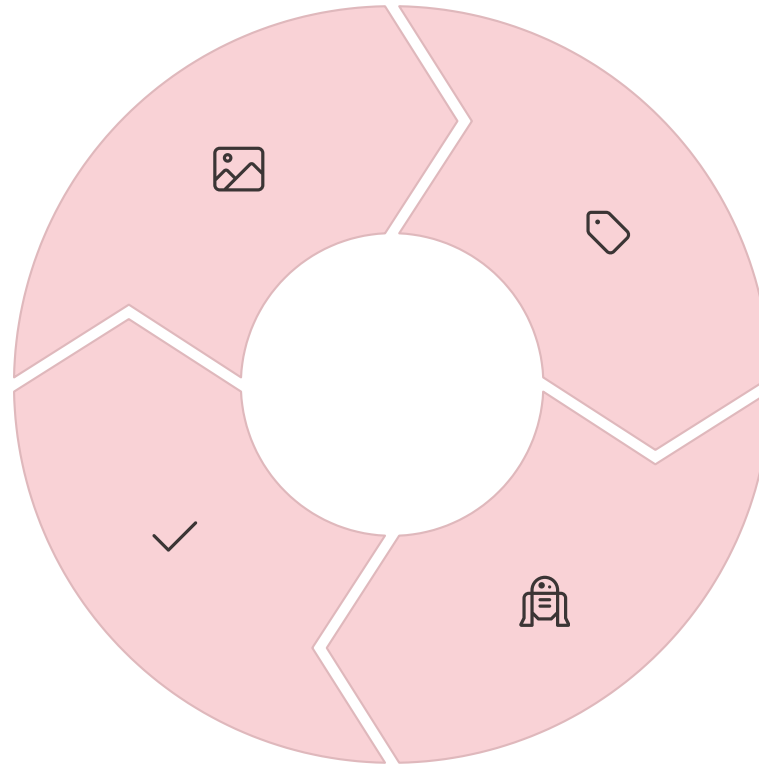### Run Detection
Initiate AI analysis

3
View Result
Pass/Fail classification

AI Model: Teachable Machine Training

Image Dataset

Collected diverse cup images

Labeled Data

Categorized as defect/non-defect

Prediction Test

Validated model accuracy

Model Training

Using Google Teachable Machine