Mentor: James Tuck, NCSU | Team: Matthew Vallillo, Zach Giordano | Instructor: Bobby Compton
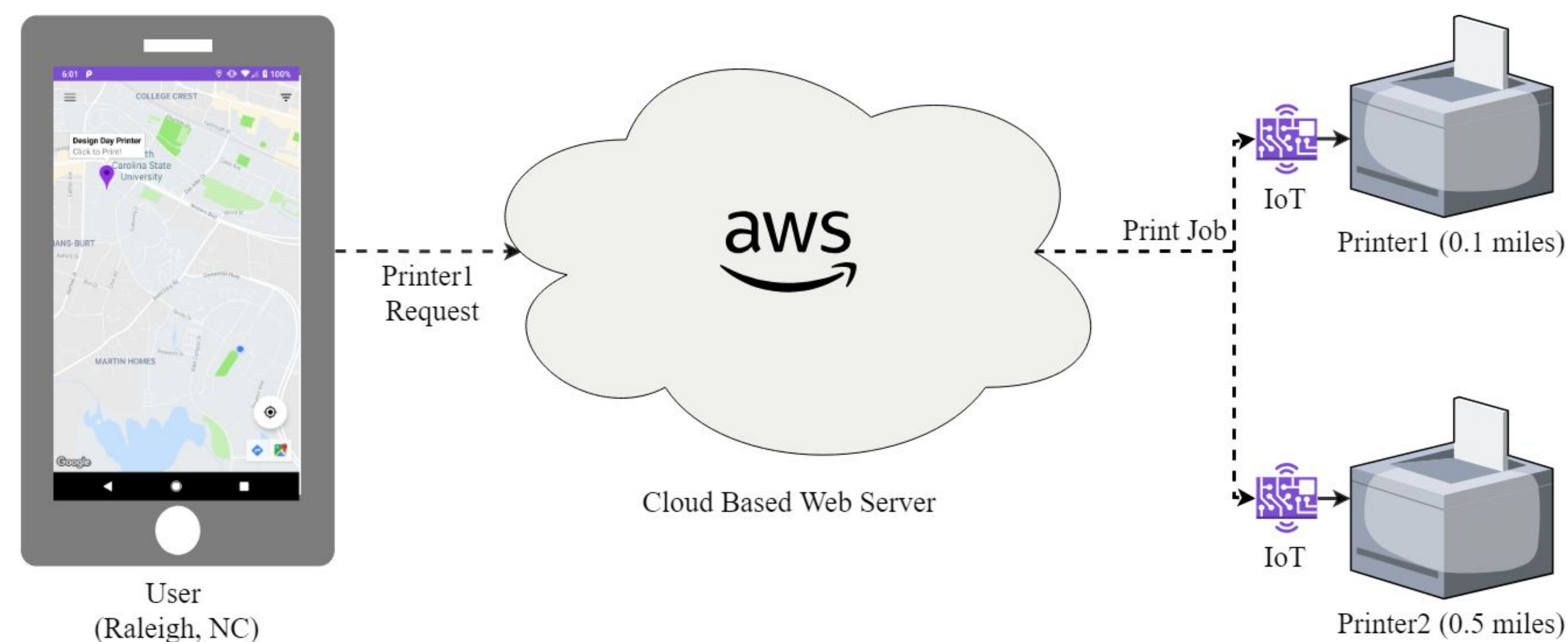
Problem Statement

Develop a cloud-based service to connect printing customers to locally owned printers as an alternative to expensive and inconvenient print shops
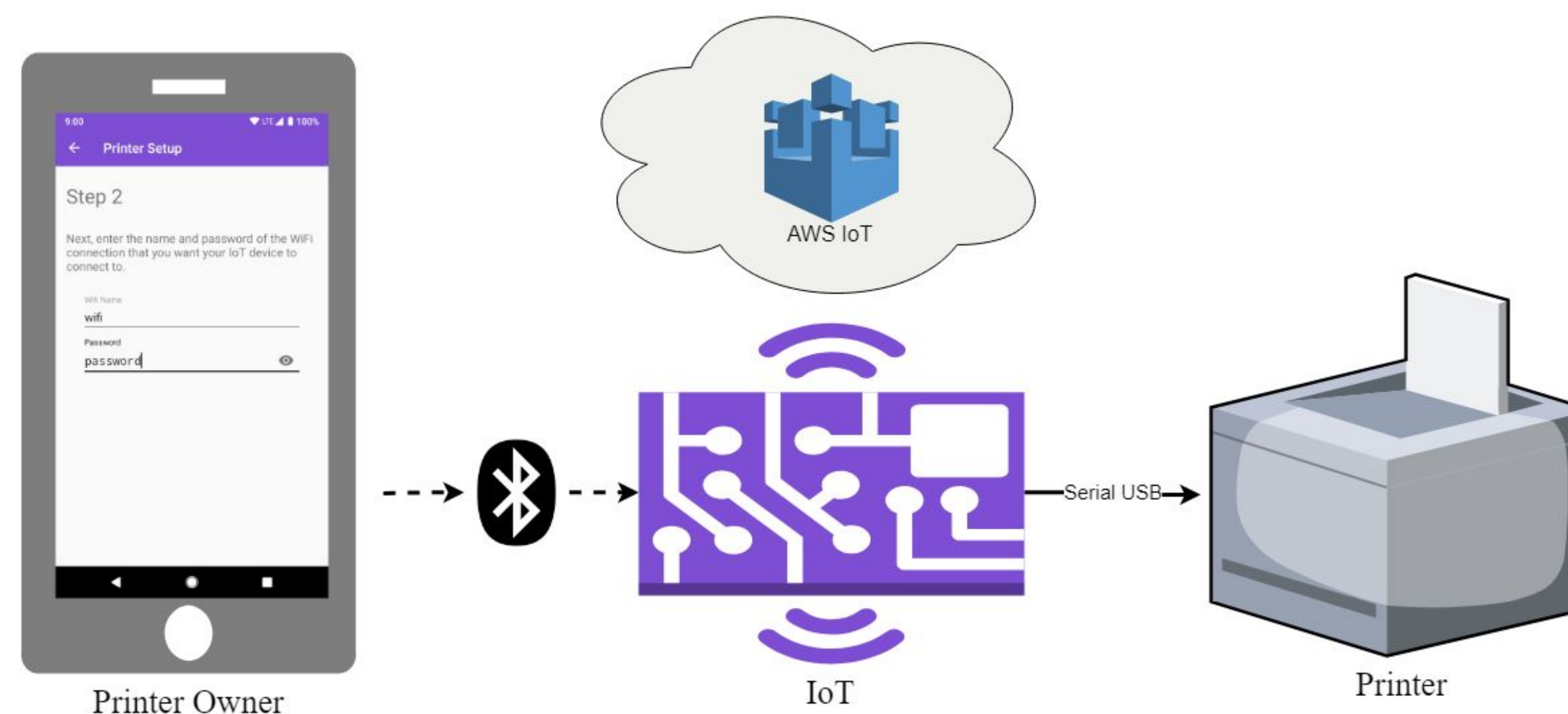
Product Requirements

- Intuitive Android app
- Simple printer setup
- Inexpensive IoT device
- Cloud registered printers
- Printer status reports
- Client prints from anywhere
- Secure transactions

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Client Use Diagram

User
(Raleigh, NC)

Printer1 Request

aws

Cloud Based Web Server

Print Job

IoT — Printer1 (0.1 miles)

IoT — Printer2 (0.5 miles)

Printer Setup Process

Printer Owner

AWS IoT

IoT

Serial USB

Printer

Design Features

Mobile Application

Intuitive use

Display local (<5 mi) printers

Visually appealing UI

Manage printers

Server

Secure communication

Document handling

Transaction processing

User & IoT data storage

Quick data queries

Printer IoT Device

Automated registration

Bluetooth connected setup

Headless printing

Print job queuing

Error handling