Please provide the following information to be shared with on capstone information exchange platform:

1. Project number: **S20-05**

2. Project title (as will appear on the poster): Floor Printing Robot

3. Team members: Akash Nayak (POC), Abhishek Chaudhuri, Ryan McGuire, Sri Sai Krishna Tottempudi

4. Adviser(s) name(s): Dr. Anand Sarwate

5. Up to 5 keywords that will help to classify the project scope:
   - Robotics
   - Raspberry Pi
   - Wireless Communications
   - Automation

6. Project abstract (up to 250 words) to be shared with judges:

   **Background →**
   
   It is the 21st century and these things can be automated to reduce the burden of road workers and allow for more complex designs in a short amount of time. This would lessen the load on the road companies to hire workers and would allow for more complex parking lot configurations to be implemented. Previous work has dealt with robot drawing on walls. We want to focus on drawing on floors.

   **Problem →**
   
   The problem is that spray painting the ground is tedious and must be maintained regularly so why not automate (reduce load for physical workers). The paint has to be maintained regularly due to weather and human intervention

   **Objective →**
   
   The objective is to require a robot to draw and navigate using sensor/signals on the ground using cutting edge technology. The robot can draw autonomously (small scale (~ 1:10 scale)) and the minimal viable product (MVP) is a robot that can print a simple square through an app.

   **Adopted approach →**
   
   The adopted approach is implementing Mobile Apps and Wireless Communications technology through a raspberry pi 3b, some motor controllers and image files. The mobile apps technology is developing an Android app to tell the robot what to draw (scripts, data processing image) and the wireless communications technology is communicating between phone and robots, to draw on various surfaces (calibrations).