

Wireless & Surveillance for Pandemic (W.A.S.P.)

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PROBLEM STATEMENT

The world is currently in a pandemic, and most of society is doing what it can to slow the spread of the virus and work towards the end of the quarantine. However, there are people actively going against the recommendations from the CDC and continuing the spread of the virus.

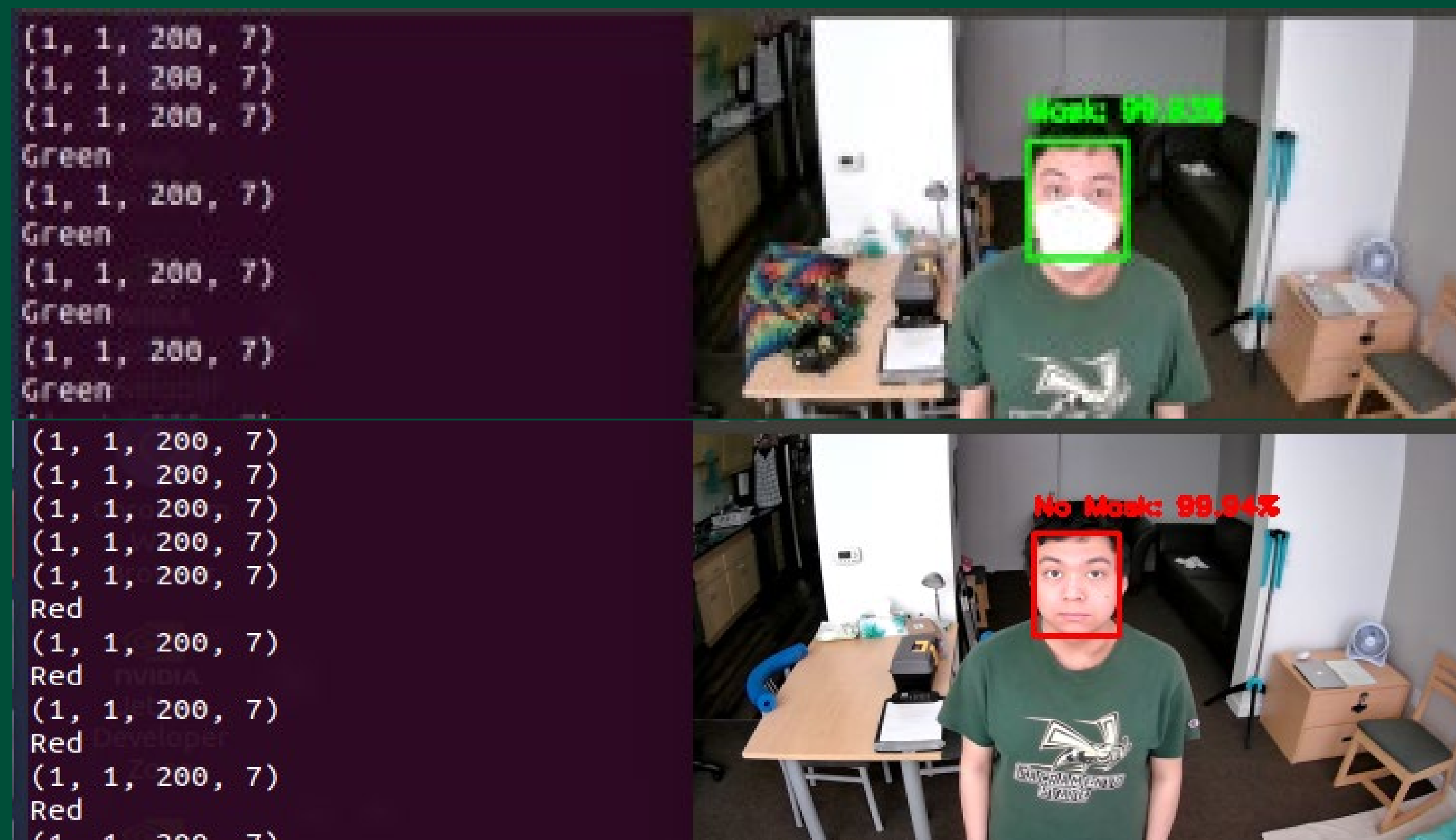


Figure 1: System Running

BACKGROUND

With the spread of COVID-19, our team has developed a face mask detector called W.A.S.P. that would promote and ensure that people are wearing their masks properly. A multidirectional camera would observe the people within the display as the artificial intelligence, which been trained to detect proper mask usage, analyzes the persons to determine whether or not the mask is properly worn.

SUMMARY OF WORK

Each team member was assigned specific tasks to focus on. Alexander dedicated himself to developing the machine learning algorithm to detect masks. Andrew was the main driving force for the camera motor mount and decision making for the best way to tackle the wireless functions. Justin Le assisted Alexander in developing the AI, while also programming and designing the GUI for the program. Justin Filimon focused on research for the wireless camera functions and large portions of the reporting process.



Figure 2: System Prototype



Figure 3: Detection Result

IMPACT ON COMMUNITY

Our design looks to make an impact on areas with monitored or minimal foot traffic. Many businesses or companies require a mask when entering their business and place someone to monitor and ensure those who enter to wear a mask. Our design will minimize the human contact and replace that worker so that their skills could be used elsewhere. Our design will impact the community positively and work to lowering the cases of COVID-19.