**CE301 Project Risk Register**

| Activity | Risk | Severity  (Major, Minor, Serious) | Probability  (Low, Medium, High) | Contingency Method(s) to Manage the Risk- A list of methods we will use to minimize the chances of the risk happening and/or the resulting damages of the risk |
| --- | --- | --- | --- | --- |
| Sending SMS with video call link | Security issue because the pi email isn’t secure and vulnerable to hackers | Major | Medium | Instead of sending emails. Send sms to the smartphone with the zoom link. More secure and less vulnerable. |
| Motion Sensors detecting movement at the front door | Can detect all types of movement and send an unnecessary amount of notification to the phone. | Minor | High | Reduce the distance at which sensors detect movement. |
| Program doesn’t start on boot. | The doorbell will be unusable and it will probably not work when someone wants to ring at the door. | Major | Medium | Make sure enough testing is done to make sure the final product is as perfect as possible. |
| Open google room app or any other video call app of choice when the button is pressed | The video call doesn’t open due to error in programming | Major | High | This is a difficult task, however if it doesn’t work you can make it send pictures of the person at the door instead without video call. |
| Doorbell display to allow video call. | Communication might not be established due to poor wifi or circuitry errors | medium | Low | Making sure the components are connected to the correct GPIO pins or check of any faulty wire. |
| Notifications to show on whatsapp on the phone once the button is pressed on the doorbell. | If there is no notification or message, then there must be a code error and therefore make the doorbell unusable. | Critical | medium | Programming errors can occur, and these can be avoided by performing a lot of testing. A lot of resources online can help. |
| 3D enclosure case | Wrong measurements leading to components not fitting and result in waste of time and materials | Critical | Low | It can easily be avoided by using specified 3D design software that can take all measurements accurately and therefore can fit. |
| Make doorbell sound when the button is pressed | When the doorbell button is pressed there might be a risk that the doorbell might not make a sound which in the case of the homeowner not being close to their phone will not hear the visitor. | Critical | Low | This issue is easily avoidable by performing a lot of testing, trial and error. Another issue could be that there is a faulty speaker, in which case it is best to replace it. |
| Entering google video call room automatically. | When the button is pressed instead of automatically joining the video call the pi would ask for the person to enter their name and click a button before entering. This would complicate things for the visitor entering the call, therefore making the feature useless. | Critical | Medium | Issues like these can occur if the raspberry pi is installed in a new place with new wifi or when it hasn’t been linked with any account yet, hence why it would ask for the visitor to enter their name.  The solution would be to login with an account to the raspberry pi and then the issue should be fixed. If the issue still persists, changing to a different video call service might be an option. It comes down to testing until it works. |