LO1 Support Documents (Requirements)

1.1 Range of requirements, a functional requirements, measurable quality attributes, qualitative requirements, ...

| | Functional | Measurable quality attributes | Qualitative |
|-------------|------------------------|---------------------------------|----------------------------|
| | requirements | Weddardsie quality attilisated | requirements |
| Customers | Log in and Log out | 1. The orders should be | 1. Ease of use of the |
| Customers | | | |
| | 2. Make orders | delivered successfully. | software (Nice looking |
| | 3. Tracking orders in | 2. The orders need to be | User interface). |
| | real time | completed within the stipulated | 2. User information can |
| | 4. Cancel orders | time. | be kept securely, and |
| | 5. Refund | 3. The user should be able to | personal information |
| | | know how to use the | will not be disclosed. |
| | | application within a specific | |
| | | time. | |
| Restaurants | 1. Log in and Log out | 1. The restaurant needs to know | 1. Ease of use of the |
| | 2. Receive orders | by what time to complete the | software (Nice looking |
| | 3. Cancel orders | order | User interface). |
| | 4. Let restaurants | 2. The user should be able to | 2. User information can |
| | update the menu | know how to use the | be kept securely, and |
| | and inventory | application within a specific | personal information |
| | information | time. | will not be disclosed. |
| Delivery | 1. The drone route | 1. Reliability: Mean Time | 1. The user interface |
| Company | should be valid | Between Failure | should be designed to |
| | 2. The drone should be | 2. Performance: The drone | be easy for the user to |
| | able to go back to | should be able to find an | use. |
| | charging place when | optimal route to delivery | 2. Excellent system |
| | the battery is not | certain number of orders | security: Full encryption, |
| | enough to run all the | before the battery runs out. | password management |
| | orders. | 3. Maintenance cost (drone | 3. A state machine that |
| | | maintenance, charging due to | can intuitively see the |
| | | inefficient algorithm) | status of the drone. |
| | | 4. Load size: The drone can | |
| | | carry objects of a certain | |
| | | weight | |

| The state of the s | 4. Elista asserbations. Dec. 1. | 1 D |
|--|--|---|
| The drone route | 1. Flight restrictions: Regulators | 1. Privacy of Residents |
| nould be valid | may require drones to fly below | nearby (No cameras |
| Drone safety: the | a certain altitude, stay within a | when the drone is |
| rone should be safe to | specific airspace, or avoid flying | flying) |
| ollect, pass out the | over certain areas. | 2. User information |
| ood. | 2. Number of accidents or | security (No data leak) |
| The ability to | incidents involving drones or | 3. Safety and security: |
| vestigate and respond | community members | Regulators may require |
| accidents or | 3. Number of complaints or | drones to have certain |
| cidents involving | reported issues related to the | safety features, such as |
| rones or community | drone delivery system | obstacle avoidance |
| nembers | 4. Compliance with existing | sensors, and to be |
| The ability to share | regulations and laws regarding | equipped with |
| ata with other | airspace, privacy, and security | technology to prevent |
| gulators, authorities | | unauthorized access or |
| nd agencies as | | hacking. |
| ecessary. | | |
| Privacy protections | 1. The number of drone crashes | 1. Safety and security |
| or community | over a long period of time | for both the drones and |
| nembers, such as | should be below a very small | the community |
| bscuring sensitive | number | members |
| formation on | 2. Noise level of the drones, | 2. Privacy concerns for |
| ackages | measured in decibels | community members |
| Drones should | 3. Number of community | 4. Transparency and |
| uarantee very high | complaints or reported issues | communication with |
| afety and not crash | related to the drone delivery | the community |
| nd injure pedestrians | system | regarding the operation |
| | | of the drones |
| | ould be valid Drone safety: the one should be safe to illect, pass out the od. The ability to vestigate and respond accidents or cidents involving ones or community embers The ability to share at a with other gulators, authorities ad agencies as ecessary. Privacy protections or community embers, such as ecessary such as escuring sensitive formation on ackages Drones should arantee very high fety and not crash | may require drones to fly below a certain altitude, stay within a specific airspace, or avoid flying over certain areas. 2. Number of accidents or incidents involving drones or community members 3. Number of complaints or reported issues related to the drone delivery system 4. Compliance with existing regulations and laws regarding airspace, privacy, and security 1. The number of drone crashes over a long period of time should be below a very small number 2. Noise level of the drones, measured in decibels 3. Number of community expenses as excessary. Privacy protections or community embers, such as over a long period of time should be below a very small number 2. Noise level of the drones, measured in decibels 3. Number of community complaints or reported issues related to the drone delivery |

1.2 Level of requirements, system, integration, unit.

System Test:

- 1. Log in and Log out for users (Customers and Restaurants)
- 2. Ease of use of the software (Nice looking User interface).
- 3. The orders need to be completed within the stipulated time
- 4. The user should be able to know how to use the application within a specific time.
- 5. User information can be kept securely, and personal information will not be disclosed.
- 6. Navigation: The drone delivery route cannot cross the no-fly zones.
- 7. The user interface should be designed to be easy for the user to use
- 8. The drone could delivery certain number of orders before the battery runs out.
- 9. Drone safety: the drone should be save to collect, pass out the food.
- 10. Excellent system security: Full encryption, password management
- 11. Reliability, Performance, maintenance
- 12. The number of crashes within a range of time and the drone noise pollution level

- 13. The ability to share data with other regulators, authorities and agencies as necessary.
- 14. The ability to investigate and respond to accidents or incidents involving drones or community members

Integration Test:

- Make orders, cancel orders, receive orders, update the menu and inventory information.
- Log in and Log out for users (Customers and Restaurants). (Interaction with database)
- The software should be able to give the estimation time of each order.