## **Drone Delivery Mailbox**

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## Scenario & Problem

- Commercial Drone Package Delivery Possible?
- Where? To Whom? What if?
- Question: How can drones package delivery reach the appropriate person living in an apartment complex?
  - Our "solution": Conceptualize/design a package mailbox for drones which can be used in apartment buildings

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|              |        | Karen                   | uren | Frederique              | uren | Tim  | uren | Luc  | uren | 1 1          | Karen             | uren | Frederique        | urer  | Tim                 | urer | Luc                 | uren  |
| <b>'</b> lan |        | Wetgeving               | 8    | Pakketbezorging flats   | 10   | Sorteersystemen  | 12   | 2 Probleemdefinitie  | 10   |              | 0110240           |      |                   |       |                     |      |                     |       |
| 'ICIN        |        | Presentatie maken       | 4    |                         |      |  |      | Ultwerken planning   | 4    |              |                   |      | Weekly update     |       | 1                   |      |                     | 1.0   |
|              | To di  | Meeting maandag         | 2    | Meeting maandag         | 2    | Meeting maandag  |      | 2 Meeting maandag  | 2    | To do        | Meeting maandag   | 4    | Meeting maandag   |       | 4 Meeting maandag   | 1.6  | 4 Meeting maandag   | . 4   |
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|              | -      | Voorbereiding meeting   | 2    |                         |      |  |      |  |      | <u>b</u> – 8 |                   |      |                   |       |                     |      |                     | 4 8   |
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|              |        | Agenda en notulen       | 15/9 | Wiki huidige pakketbeze | 15/9 | Wiki sorteersystemen   | 15/9 | Probleemdefinitie  | 15/9 | L.           |                   |      | Weekly update     | 6/9   |                     |      |                     |       |
|              | Delive | r Wiki wetgeving.       | 15/9 |                         | 0.15 |  |      | Planning   | 13/9 | Deliver      |                   |      |                   |       |                     |      |                     |       |
|              | -      | Presentatie             | 15/9 |                         |      |  |      |  |      |              |                   |      |                   |       |                     |      |                     |       |
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|              |        | Func. requirements      | 6    | Process requirements    | 6    | External requirements  | 6    | 5 Product requirements   | 6    |              |                   |      |                   |       |                     | 1    |                     | 1     |
|              |        | Weekly update           | 1    | Designmatrix (voor brai | 1    |  |      |  |      |              |                   |      |                   |       | Weekly update       | 1    | 1                   |       |
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|              |        | Brainstorm              | 4    | Brainstorm              | 4    | Brainstorm   |      | Brainstorm   | 4    |              | Meeting donderdag | 4    | Meeting donderdag |       | 4 Meeting donderdag |      | 4 Meeting donderdag | 4     |
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|              |        | Wiki requirements       | 18/9 | Wiki requirements       | 18/9 | Wiki requirements  | 18/9 | Wiki requirements  | 18/9 |              |                   | 1    |                   |       | Weekly update       | 13/5 | 9                   |       |
|              | Delive | r Weekly update         | 22/9 | 2                       |      |  |      | Notulen  | 18/9 | Deliver      |                   |      | (i                |       |                     |      |                     | 1 5   |
|              |        |                         |      |                         |      |  |      |  |      |              |                   |      | 11                |       |                     |      | 2                   |       |
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|              | 5      | Karen                   | uren | Frederique              | uren | Tim  | uren | Luc  | uren | <u> </u>     | Karen             | uren | Frederique        | urer  | n Tim               | urer | Luc                 | uren  |
|              | 3      | Testplan                | 6    | Verdere werkverd.       | 6    | Testplan   | 6    | 5 Materiaallijst   | 6    |              |                   |      | <i>k</i>          |       |                     |      |                     | 1     |
|              |        |                         |      |                         |      |  |      | Weekly update  | 1    |              |                   |      |                   | _     |                     |      |                     |       |
|              | Tod    | Meeting maandag         | -    | Meeting maandag         |      | Meeting maandag  |      | Meeting maandag  | 4    | To do        | Meeting maandag   | _    | Meeting maandag   | -     | 4 Meeting maandag   | -    | 4 Meeting maandag   | 4     |
|              |        | Meeting donderdag       | 4    | Meeting donderdag       | 4    | Meeting donderdag  | 4    | Meeting donderdag  | 4    |              | Meeting donderdag | 4    | Meeting donderdag |       | 4 Meeting donderdag | 1    | 4 Meeting donderdag | 4     |
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|              |        | Testplan                | 29/9 | 1                       |      |  |      | Weekly update  | 29/9 |              |                   | -    |                   |       |                     |      | 2                   | 1 3   |
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| Planning                     |   |    |      |   |      |     |     |    |    |    |       |      |    |      | F   | = |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    | L |
| Background Research          |   |    |      |   |      | D   |     |    |    |    |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Scenario & Prob. Def         |   |    |      |   |      | L   |     |    |    |    |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Rules & Regs                 |   |    |      |   |      | К   |     |    |    |    |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Package Systems              |   |    |      |   |      | Т   |     |    |    |    |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Deliveries                   |   |    |      |   |      | F   |     |    |    |    |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Requirements                 |   |    |      |   |      |     |     |    |    | D  |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Functional                   |   |    |      |   |      |     |     |    |    | К  |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Process                      |   |    |      |   |      |     |     |    |    | F  |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Product                      |   |    |      |   |      |     |     |    |    | L  |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| External                     |   |    |      |   |      |     |     |    |    | Т  |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Brainstorm & Sketches        |   |    |      |   |      |     |     |    |    | D  |       |      |    | [    | D I | D |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Design Matrix                |   |    |      |   |      |     |     |    |    | F  |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Sketch/Concept, Component    |   |    |      |   |      |     |     |    |    |    |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Sketch/Concept, Component    |   |    |      |   |      |     |     |    |    |    |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Sketch/Concept, Component    |   |    |      |   |      |     |     |    |    |    |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Materials List/Full Drawing  |   |    |      |   |      |     |     |    |    |    |       |      |    | L    | -   |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Build Plan                   |   |    |      |   |      |     |     |    |    |    |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Prototype & Test             |   |    |      |   |      |     |     |    |    |    |       |      |    |      |     |   |    |       | D   |      |      |      |     |     |     |    |     |      |     |    |    |      | - 1 | D  |    |    |    |      |    |    |   |
| Test Plan                    |   |    |      |   |      |     |     |    |    |    |       |      |    |      |     |   |    |       | К   | T    |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Building                     |   |    |      |   |      |     |     |    |    |    |       |      |    |      |     |   |    |       |     |      | Buil | ding | 38. | Twe | aki | ng | Des | sigi | n - |    |    |      |     |    |    |    |    |      |    |    |   |
| Testing                      |   |    |      |   |      |     |     |    |    |    |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Iterate                      |   |    |      |   |      |     |     |    |    |    |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Weekly Update                |   |    |      |   |      |     |     |    |    |    |       |      |    |      |     |   |    |       |     | L    |      |      |     |     |     |    | F   |      |     |    |    |      |     | Т  |    |    |    |      |    |    |   |
| Software                     |   | _  |      |   | _    |     |     |    |    | _  |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    | _  |    |      |    |    |   |
| Mechanisms                   |   |    |      |   |      |     |     |    |    |    |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Combining Components         | _ | _  |      |   |      |     |     | _  |    | _  |       |      |    |      |     |   | _  |       |     |      |      |      |     |     |     |    |     |      |     |    |    | _    |     | _  |    | _  |    |      |    |    |   |
| Test Results                 |   |    |      |   |      |     |     |    |    |    |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Finalization                 |   |    |      |   |      |     |     |    |    |    |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    | D    |    |    | D |
| Conclusions & Considerations |   |    |      |   |      |     |     |    |    |    |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Mechanics of Product         |   |    |      |   |      |     |     |    |    |    |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Sofware of Product           |   |    |      |   |      |     |     |    |    |    |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| User Friendliness of Product |   |    |      |   |      |     |     |    |    |    |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Flaws/Considerations         |   |    |      |   |      |     |     |    |    |    |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |
| Final Presentation           |   |    |      |   |      |     |     |    |    |    |       |      |    |      |     |   |    |       | _   |      |      |      |     |     |     | _  |     | _    |     |    |    |      |     |    |    |    |    |      |    |    | D |
| Final Prototype Done         |   |    |      | _ |      |     |     |    | _  |    |       |      | _  |      | _   | _ |    |       | _   |      |      |      |     |     | _   | _  |     |      |     |    |    |      |     | _  |    |    |    |      |    |    | D |
| Clean Up Wiki                |   |    |      |   |      |     |     |    |    |    |       |      |    |      |     |   |    |       |     |      |      |      |     |     |     |    |     |      |     |    |    |      |     |    |    |    |    |      |    |    |   |

## Milestones

- End Week 3 (22/9) Mailbox idea/components chosen
- Week 4 Prototype & test iteration(s) begin
- Mid Week 5 (29/9) Main test plan complete & Prototype together
- End week 6 (13/10) Testing & Tweaked final iteration of prototype for this project complete
- 17/10 Presentation done & latest prototype

## Deliverables

- Weekly Updates Meeting & Main Page
- Background Research (15/9)
- Requirements (18/9)
- Brainstorm & Design Matrix (20/9)
- Material List / Concept Sketch (23/9)
- Build Plan (24/9)
- Test Plan (29/9)
- Results, Future Considerations & Conclusions (week 7)
- Final Presentation (20/10)

Any Question?