

# Vittles Drone



Team Members:

Mary Bull

Cory Owens

Joanna Senseng

Hussain Alhafedh



## Vittles Drone

### Team Mission Statement:

*“Complete our project successfully with full team participation by demonstrating an understanding of the main principles and uses of project management effectively.”*

### Meet the Team:

#### **Mary Bull**

I work for South Anna Technology (IT support); I am interested in system administration, computer networking, and IT security; my hobbies include traveling and history events.

#### **Cory Owens**

I am a junior that is interested in programming and security. I work at a grocery store and a restaurant, and in my free time I like to watch sports and play a little bit of video games.

#### **Joanna Senseng**

I am currently working part time as Lead IT Analyst for VCU's IT Support Center and have held internship position as a Product Developer at ECMC's Innovation Lab. In my free time, I attend hackathon events and travel as much as possible.

#### **Hussain Alhafedh**

I am a junior, 26 years old. I am currently enrolled in VCU as of 2012 as Information System student. During my free time I like to spend it with friends playing games and going on trips over the weekend.



## Vittles Drone

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## Vittles Drone

### Project Description:

Vittles Drone is a drone delivery service that delivers Chipotle burritos/Jimmy John's subs to the VCU Engineering students in Snead Hall. Engineering students are busy with homework and projects and do not like to leave their work, even for necessities. This project will help students achieve maximum productivity. The drone will not deliver any other food besides a Chipotle burrito/Jimmy John's sub, to reduce the scope of the project, and will only deliver specifically to the Qimonda Atrium doors at Engineering East of Snead Hall.

Benefits from this project include reduced delivery times, making it faster and more convenient, and give students (our consumers) a glimpse into the future with this innovative service. Users will download an app and order through the app with their information. Chipotle/Jimmy John's staff will receive the drone order, and proceed to put the burrito/sub into the drone's delivery mechanism. The drone will then use a fixed, predetermined route to fly and deliver the student (customer) their order. The drone will then scan the QR code that the student received after ordering through the app and confirm the payment and order. This project will give more exposure to and generate interest in the Chipotle/Jimmy John's location which facilitates drone delivery. More students will want to try out the new technology and order food from the restaurant the drone delivers, bringing in more revenue.

### Project Proposal:

Delivery by drone would reduce the food-gathering time of an engineering student by 50%, based on a measurement of a 30-minute round trip to Chipotle, or 20-minute round trip to Jimmy John's versus a 15-minute drone delivery from Chipotle or 10-minute drone delivery from Jimmy John's. We will measure the convenience value among adopters with an in-app survey asking if drone delivery customers have eaten at the respective restaurant without ordering through the app, and how many times. By comparing their choice of paying more for drone delivery with the number of times they have eaten at the restaurant without the app, we can establish a measurable value the customer places on the convenience of drone delivery.

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## Vittles Drone

### **MOV (Measurable Organizational Value):**

The Vittles Drone delivery service will implement a pioneering drone delivery system to provide a 50% faster and more convenient dining alternative to VCU's Engineering students after 12 months of developing and testing.

### **Alternatives to Vittles Drone:**

Students do leave their work eventually, so food delivery by drone is not a necessity, but the venture does represent a business opportunity to meet a need and create technological value that does not currently exist.

Other alternatives are less technically risky, but do not offer the technical reward. For example, a Chipotle branded food truck parked outside Engineering East would be more convenient than walking to Grace Street, however, it would still require effort in leaving the building or lab to get the food.

Bike delivery is another solution: lightweight to implement, since it does not require buying or staffing a food truck, easily scaled up or down based on demand since staffing cyclists is not expensive, and faster than car delivery. Bicycle delivery has fewer advantages than drone delivery, however, because cyclists will still have to deal with traffic, and cannot move as quickly, or process payments as efficiently, as a drone.

A third option is a burrito-delivery robot. Washington DC introduced these robots this Spring, and they are legal in Virginia. However, because they travel only on sidewalks and predictable roads, a drone flying over traffic is the best solution for the VCU campus between Grace St and Engineering East.



## Vittles Drone

### Project Scope:

We are reducing technical risk with a carefully defined project scope. The drone will cover a defined route between Grace St Chipotle/Franklin St and Engineering East / Snead Hall. It will fly a mapped route to comply with FAA regulations, avoid obstacles, and remain its time and distance limitations. We will deliver Chipotle burritos only.

We will not deliver other foods besides Chipotle burritos. The drone will not deliver to any other location other than Engineering East / Snead Hall. The drone will not be piloted, instead it will rely on GPS coordinates and a predetermined route mapped out. To stay within project deadlines, after staffing interruptions, the drone may be piloted. There will be no cash transactions, or call in drone deliveries. All drone delivery orders must be made on the app, and up to five burritos can be delivered in one trip.

### Quality Standards:

Our project will require an approval from the FAA to fly our drone around the campus. The waiver will request permission to fly over people, fly without an observer, fly at night, and higher than 400 feet. The drone will cover a defined route between Grace St Chipotle/ Franklin St Jimmy John's and Engineering East. It will fly a mapped route to comply with FAA regulations, avoid obstacles, and remain its time and distance limitations.

### Project Budget Summary:

The project is funded by a grant facilitated through VCU Engineering Research. Planned costs are as follows:

- ◆ \$1200 to purchase selected drone
- ◆ \$800 in reserve for drone engineering/repair costs
- ◆ \$400 set to pay initial PayPal fees if needed
- ◆ \$3000 to develop the app
- ◆ \$1000 to subsidize costs for launch party, September 26



## Vittles Drone

Quality Plan:

| <u>Project Process</u>  | <u>Process Quality Standards/ Stakeholder Expectations</u>  | <u>Quality Assurance Activity</u>  | <u>Frequency/ Interval</u>                                  |
|---|---|--|---|
| Payment transaction system  | Work smoothly and securely; users should be comfortable entering payment details experience should be secure and frictionless | Prioritize developing this part of the project; Test iteratively with selected student group | Test each week to maintain progress and keep people engaged |
| Autopilot GPS Drone System  | To fly from point A to point B without problems. Find best practical route.   | Plotting and analyzing the route.  | Test every other week                                       |
| Keeping the target audience informed throughout the whole process | To get the community engaged and interested to increase participation once the product is ready to be launched                | Getting people to be active on the Twitter page (likes, retweets, following)                 | Tweet once a week   |



## Vittles Drone

### Project Plan:

The developers for this project are volunteers, students in VCU engineering who are completing this project to build experience and solve an interesting project on campus.

The project will include planning a route the drone can fly safely from Chipotle on Grace St to the Qimonda Atrium doors at Engineering East/Snead Hall; engineering a 3D-printed box that can carry up to five burritos at a time that can be attached to the drone; and building an app with ordering and payment system that smoothly and securely processes payments, shows the customer the time until delivery, and integrates a unique QR code for each order that can be scanned so that correct person gets their order. The box will have five compartments with five doors with QR code readers, so that when the customer scans the code they received in the app, the correct box door opens revealing the burrito.

During high volume ordering times (times to be determined from testing) the drone's flight plan may change to be on a schedule so that customers know it will leave on the hour and half hour, for example. Another option we are looking into is allowing the customers to see how many orders are in front of them, so they know if they are the sixth person in line, or the fourth person in line, for example. This knowledge is helpful in determining when an order will arrive and if it is cost effective to plan the order at the present time related to the wait time.

Our original plan was to implement an automated flight plan that would not need a pilot. However, our project was modified when our volunteer VCU developers were called away on another urgent school project. We are focusing on implementing the payment plan and are saving the flight plan for the second iteration.

Ordering a burrito through the app will add an 8% cost to the burrito. We are using PayPal as our integrated payment system in the app. The app will also use a very brief survey to check on the drone's business success: customers will be asked how many times they ate at Chipotle in the last week (or month). This answer is compared internally with the number of times that customer ordered through the app, to determine whether the app increased Chipotle orders, and if its convenience was valued by the customer in spite of the upcharge. The upcharge will cover the 3% PayPal fees.





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### Project Charter

## Vittles Drone

### Resources:

#### Teams:

- ♦ Engineering
- ♦ Business

#### Facilities:

- ♦ School of Engineering (East Hall) Makerspace  
401 W. Main St.  
Richmond, VA 23220

#### Point of Contact:

- ♦ Dr. Gerald Kasper | dgkasper@vcu.edu | 804.828.9021

### Business Plan:

| ID | Task Name   | Duration   | Start       | Finish       | Predecessors | Resource Names               |
|----|---|------------|-------------|--------------|--------------|------------------------------|
| 1  | /   | 175 days   | Wed 2/1/17  | Tue 10/3/17  |              |                              |
| 2  | Analysis  | 193.5 days | Wed 2/1/17  | Mon 10/30/17 |              |                              |
| 3  | Meet with VCU Engineering Students to discuss project requirements                | 1 day      | Wed 2/1/17  | Wed 2/1/17   |              | Senseng<br>Joanna,Owens Cory |
| 4  | Apply for FAA Waiver  | 5 days     | Mon 2/6/17  | Fri 2/10/17  |              | Bull Mary,Permits\$3         |
| 5  | Develop System  | 72 days    | Thu 2/2/17  | Fri 5/12/17  |              |                              |
| 6  | Develop Use Cases   | 4 days     | Fri 2/3/17  | Wed 2/8/17   |              | Assistant Engineer           |
| 7  | Create Class Diagrams   | 1 day      | Thu 2/9/17  | Thu 2/9/17   | 6            | Assistant Engineer           |
| 8  | Create Sequence Diagram   | 1 day      | Fri 2/10/17 | Fri 2/10/17  | 7            | Assistant Engineer           |
| 9  | Create State Chart  | 1 day      | Mon 2/13/17 | Mon 2/13/17  | 8            | Owens Cory                   |
| 10 | Create Data Model   | 1 day      | Tue 2/14/17 | Fri 2/17/17  | 9            | Senseng Joanna               |
| 11 | Create User Interface   | 1 day      | Mon 2/27/17 | Mon 2/27/17  | 10           | Owens Cory,Senseng           |
| 12 | Meet with students to check requirements  | 1 day      | Tue 2/21/17 | Tue 2/21/17  | 11           | Bull Mary                    |
| 13 | System Proposal   | 5 days     | Mon 2/20/17 | Fri 2/24/17  | 12           | Owens Cory,Senseng           |
| 14 | Milestone: complete system design proposal  | 0 days     | Fri 2/24/17 | Fri 2/24/17  | 13           |                              |
| 15 | Secure Grant Funding  | 39 days    | Thu 2/2/17  | Wed 3/29/17  | 3            |                              |
| 16 | Develop Grant Proposal  | 21 days    | Thu 2/2/17  | Mon 3/20/17  |              | Bull Mary,Assistant B        |
| 17 | Meet with VCU School of Engineering Research Department to present grant proposal | 1 day      | Tue 3/21/17 | Tue 3/21/17  | 16           | Bull Mary                    |
| 18 | Milestone: Secure funding   | 0 days     | Wed 3/29/17 | Wed 3/29/17  | 17           |                              |
| 19 | Build Business Case   | 7 days     | Thu 3/30/17 | Fri 4/7/17   | 15           |                              |
| 20 | Develop Budget  | 3 days     | Thu 3/30/17 | Mon 4/3/17   |              | Alhafedh Hussain,Bul         |
| 21 | Identify Food Sponsor   | 2 days     | Tue 4/4/17  | Wed 4/5/17   | 20           | Assistant Business Ar        |
| 22 | Meet with Food Sponsor  | 2 days     | Thu 4/6/17  | Fri 4/7/17   | 21           | Alhafedh Hussain             |



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### Project Charter

## Vittles Drone

### Business Plan:

| ID  | Task Name   | Duration | Start       | Finish       | Predecessor | Resource Names  |
|-----|---|----------|-------------|--------------|-------------|---|
| 23  | Milestone: Get a sponsor to provide food                                  | 0 days   | Fri 4/7/17  | Fri 4/7/17   | 22          |   |
| 24  | Milestone: Implement project baseline plan                                | 0 days   | Fri 4/7/17  | Fri 4/7/17   | 19          |   |
| 25  | Email Stakeholders  | 171 days | Fri 3/3/17  | Mon 10/30/17 |             |   |
| 44  | Tweet Update  | 171 days | Fri 3/3/17  | Mon 10/30/17 |             |   |
| 80  | Design  | 41 days  | Mon 4/10/17 | Mon 6/5/17   | 2           |   |
| 81  | Request drone company product demonstrations                              | 5 days   | Mon 4/10/17 | Fri 4/14/17  |             | Assistant Business Analyst                              |
| 82  | Research and select drone for purchase; piloted flight of company samples | 8 days   | Mon 4/10/17 | Fri 4/21/17  | 4           | Alhafedh Hussain, Owens Cory, Senseng Joanna            |
| 83  | Blueprint Plan for Drone  | 26 days  | Mon 4/24/17 | Mon 5/29/17  | 82          |   |
| 84  | Design Case and Attachment to Carry Food for Drone                        | 14 days  | Mon 4/24/17 | Thu 5/11/17  | 82          | Senseng Joanna  |
| 85  | Configure setup for QR Code   | 12 days  | Fri 5/12/17 | Mon 5/29/17  | 84          | Owens Cory  |
| 86  | Milestone: submit introductory design plan to faculty sponsor for review  | 0 days   | Mon 5/29/17 | Mon 5/29/17  | 85          | Alhafedh Hussain, Owens Cory, Senseng Joanna, Bull Mary |
| 87  | Project Update: communicate status with funders, food sponsor             | 1 day    | Mon 5/15/17 | Mon 5/15/17  | 5           | Bull Mary   |
| 88  | Milestone: complete project design  | 0 days   | Mon 5/15/17 | Mon 5/15/17  | 87          | Alhafedh Hussain, Owens                                 |
| 89  | Development   | 27 days  | Wed 6/14/17 | Thu 7/20/17  | 80          |   |
| ID  | Task Name   | Duration | Start       | Finish       | Predecessor | Resource Names  |
| 90  | Purchase Drone  | 1 day    | Wed 6/14/17 | Wed 6/14/17  |             | Alhafedh Hussain, Equipment                             |
| 91  | Buy QR Reader   | 1 day    | Fri 6/16/17 | Fri 6/16/17  |             | Alhafedh Hussain, Equipment                             |
| 92  | Subscribe to Payment System   | 1 day    | Thu 6/15/17 | Thu 6/15/17  | 90          | Alhafedh Hussain, Equipment                             |
| 93  | Develop App for Cross-Platform Use  | 7 days   | Mon 6/19/17 | Tue 6/27/17  |             | Owens Cory  |
| 94  | Test app with student stakeholders  | 7 days   | Mon 6/19/17 | Tue 6/27/17  |             | Alhafedh Hussain, Bull Mary                             |
| 95  | Plan Launch Party   | 5 days   |             |              |             | Bull Mary   |
| 96  | Assemble Drone  | 25 days  | Fri 6/16/17 | Thu 7/20/17  | 92          |   |
| 97  | 3-D Print Carrying Case and Attachments                                   | 3 days   | Fri 6/16/17 | Tue 6/20/17  | 92          | Senseng Joanna  |
| 98  | Build/Attach Case and Components  | 4 days   | Mon 7/17/17 | Thu 7/20/17  | 97          | Senseng Joanna  |
| 99  | Test Piloted Drone Flight   | 2 days   | Fri 6/30/17 | Mon 7/3/17   | 90          | Owens Cory  |
| 100 | Testing/Implementation  | 34 days  | Thu 8/17/17 | Tue 10/3/17  | 89          |   |
| 101 | VCU News/Alerts Announcement about Program                                | 1 day?   | Thu 8/17/17 | Thu 8/17/17  |             | Bull Mary   |
| 102 | Test Automated Drone Flight   | 4 days   | Thu 8/17/17 | Tue 8/22/17  |             | Assistant Engineer                                      |
| 103 | Test Drone Delivery System for Bugs                                       | 5 days   | Wed 8/23/17 | Tue 8/29/17  | 102         |   |
| 104 | Identify Bugs   | 1 day    |             |              |             | Assistant Engineer                                      |
| 105 | Resolve Bugs  | 3 days   |             |              |             | Assistant Engineer                                      |
| 106 | Escalate Bugs   | 1 day    |             |              |             | Assistant Engineer                                      |



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### Project Charter

## Vittles Drone

### Business Plan:

| ID  | Task Name   | Duration       | Start               | Finish              | Predecessor | Resource Names                           |
|-----|---|----------------|---------------------|---------------------|-------------|--|
| 107 | Beta Rollout and Feedback   | 10 days        | Wed 8/30/17         | Tue 9/12/17         | 103         | Bull Mary                                |
| 108 | Update and Submit Final Version   | 5 days         | Wed 9/13/17         | Tue 9/19/17         | 107         | Senseng Joanna                           |
| 109 | Training Day with Chipotle Employees                                    | 2 days         | Wed 9/20/17         | Thu 9/21/17         | 108         | Bull Mary, Chipotle Employee 1, Chipotle |
| 110 | System Rollout  | 3 days         | Fri 9/22/17         | Tue 9/26/17         | 109         | Alhafedh Hussain, Bull                   |
| 111 | Milestone: Celebrate completion of Testing/Implementation; Launch Party | 0 days         | Tue 9/26/17         | Tue 9/26/17         | 110         | Bull Mary, Assistant Business Analyst    |
| 112 | <b>Post-Implementation</b>  | <b>10 days</b> | <b>Wed 10/18/17</b> | <b>Tue 10/31/17</b> | <b>100</b>  |  |
| 113 | Resolve Post System Rollout Bugs  | 4 days         | Wed 10/18/17        | Mon 10/23/17        |             | Senseng Joanna                           |
| 114 | Feedback from Employees/Consumers                                       | 3 days         | Tue 10/24/17        | Thu 10/26/17        | 113         | Bull Mary                                |
| 115 | Business Proposal for replicating Project with more Drones              | 3 days         | Fri 10/27/17        | Tue 10/31/17        | 114         | Bull Mary, Alhafedh Hussain              |
| 116 | Milestone: Identify all major bugs                                      | 0 days         | Tue 10/31/17        | Tue 10/31/17        | 115         | Assistant Engineer                       |
| 117 | Milestone: project completed.   | 0 days         | Tue 10/31/17        | Tue 10/31/17        | 112         |  |

Project: INFO 461 Project Plan  
Date: Tue 5/2/17

Task

Split

Milestone

Summary

Project Summary

Inactive Task

Inactive Milestone

Inactive Summary

Manual Task

Duration-only

Manual Summary Rollup

Manual Summary

Start-only

Finish-only

External Tasks

External Milestone

Deadline

Progress

Manual Progress



## Vittles Drone

**Risk Impact Table:**

This table will assist us in assessing and prioritizing tasks according to its risk score.

| <u>Identified Risk</u>                                      | <u>0-100% Probability</u> | <u>Impact (0-10)</u> | <u>P.I. Score</u> |
|---|---------------------------|----------------------|-------------------|
| FAA waiver not approved                                     | 50%                       | 5                    | 2.5               |
| Users do not accept app/ ordering system                    | 30%                       | 9                    | 2.7               |
| Volunteer developers called away on a high priority project | 100%                      | 4                    | 4                 |
| Transaction payment system not working as planned           | 60%                       | 8                    | 4.8               |
| Drone breaking down   | 50%                       | 5                    | 2.5               |
| Autopilot navigation not working as planned                 | 40%                       | 2                    | .8                |
| Chipotle backing out of project                             | 15%                       | 5                    | .75               |



## Vittles Drone

### Feasibility Analysis:

#### **Technical Feasibility (High Risk)**

Food delivery by drone has been conceived of in several places (Virginia Tech, for example, who also tested it with Chipotle burritos), but had never fully implemented. We will integrate the following components: drone flight and navigation, payment systems, and security features. Fortunately, each of these components are developed and we have access to them; the challenge will be integration. The risk can be minimized by limiting the scope.

#### **Economic Feasibility (Low Risk)**

The drone cost, drone training, and drone maintenance is supplied a grant secured through VCU Engineering. We estimate the total cost of the drone and components will be \$2000. The development is a volunteer project undertaken by the team as an educational venture, so wages are not an issue. The restaurant will need to provide their staff to fill orders, but they are already filling orders so filling a drone order will take approximately the same amount of time as filling any other store order.

#### **Organizational Feasibility (High Risk)**

In order to comply with Federal Aviation requirements, we will have to apply for and receive a waiver to allow us the following conditions: to fly over people, to fly at night, and to fly out of line of sight of the operator or visual observer. This waiver is essential to our project – without the waiver, we cannot legally complete the project requirements. The FAA will try to respond within ninety days to requests for waivers.

Chipotle employees will have to accept the drone delivery program. We will help them become familiar with the drone delivery by creating a fun atmosphere around the program and giving them training and time to become acclimated to the drones. We also pitched to the Belvidere Jimmy John's, and they were also interested; we have an agreement with them that if Chipotle is unable to follow through after the testing phase, we will partner with Jimmy John's for sub delivery.

We chose to target engineering students and faculty because our customer profile predicts they are the most comfortable with technology solutions and value convenience. Due to these factors, we classify payments done through our app as low risk and the acceptance to the new method of delivery via drone to be high risk.



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### Project Charter

## Vittles Drone

### Communication Plan:

| Stakeholder                                | Reporting Requirements   | Report/Metric   | Reason  |
|--|--|---|---|
| VCU School of Engineering (Sponsor)        | Send emails biweekly to update on progress.<br><br>In person meeting at milestone events: end of engineering development and beginning of testing<br><br>in-person meeting to demonstrate drone capability before official testing phase                                 | Project summary<br><br>Budget<br><br>Earned value   | The project sponsor has the engineering knowledge and interest to require detailed updates.   |
| VCU Engineering/Business Students (Client) | Have a brainstorming meeting at beginning of project to understand student needs and build interest in the project. Update progress on Twitter, Facebook.<br><br>Meeting with selected students at kickoff of testing phase. Have kickoff party when testing is finished | Track meeting attendance & launch parties observe Twitter/Facebook engagement<br><br>Customer engagement survey after product launch (in app)   | Keep customer engaged in project progress   |
| Project Manager                            | Update via email on a biweekly in regards to the report metrics and milestones completed.<br>-if urgent, face to face meeting will be called.  | Project Summary, Milestones completed, budget concerns, Current Activities, Critical dates and tasks, and Tasks that are falling behind.  | The project manager is concerned with making the project operate as smoothly as possible. They want to know about any hiccups or what progress is being made in the project. The project manager makes both strategic and operational decisions.  |
| Project Team                               | Because this would be an agile development, verbal reports will be at the beginning daily during Stand Up, and a weekly written report will be sent via.   | Stand Up:<br>Inform the team of how each person intends on spending the workday<br><br>Written Report:<br>Inform the team of the goals accomplished in the week to raise morale and clarify important tasks that need to be done in a projected time estimate | The team is more involved with the tasks of one another, so staying in constant communication and update with each other is vital. With this being a huge project that is comprised of numerous milestones, we find that is important to celebrate each one. The written email will not only notify the team with the celebration details, but it will also log the project progress. |



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### Project Charter

## Vittles Drone

### Quality Plan:

| <u>Project Process</u>  | <u>Process Quality Standards/ Stakeholder Expectations</u>  | <u>Quality Assurance Activity</u>  | <u>Frequency/Interval</u>                                   |
|---|---|--|---|
| Payment transaction system  | Work smoothly and securely; users should be comfortable entering payment details experience should be secure and frictionless | Prioritize developing this part of the project; Test iteratively with sample group | Test each week to maintain progress and keep people engaged |
| Autopilot GPS Drone System  | To fly from point A to point B without problems. Find best practical route.   | Plotting and analyzing the route.  | Test every other week                                       |
| Keeping the target audience informed throughout the whole process | To get the community engaged and interested to increase participation once the product is ready to be launched                | Getting people to be active on the Twitter page (likes, retweets, following)       | Tweet once a week   |

### Scope Plan:

Due to following the model of Agile Development, the business team will adhere to doing daily stand up. By doing so, it will allow for a constant communication of the tasks to be achieved in the day per person and team. This will allow other team to communicate to other teams any roadblocks that may arise for another individual and will allow them to redirect efforts on other doable tasks. In regards to changes to the scope, it will call for a group meeting to iron out all details to not deviate from the critical path.

If the scope needs to be changed or updated for any reason, the team member proposing the change will need to brief the situation to the project team during the daily stand up. The individual will also be required to fill out the Project Change Request form that will go through a formal review to ensure this will not lead to a future scope creep that will cause the critical path any delays.



## INFO 461

### Project Charter

## Vittles Drone

### Project Change Request Form:

|                    |  |
|--------------------|--|
| Name of Change:    |  |
| Prepared By:       |  |
| Date (MM/DD/YYYY): |  |

#### 1. Requestor Information (Fill in with appropriate information or plan an "X" next to those that apply)

Area of Change:

Scope ☐

Schedule ☐

Budget ☐

Quality ☐

Is this Change the result of a Risk Management Action?

No ☐

Yes ☐

*Proposed Change Description and References:*

Description:

Justification:

Hyperlinks:

Impact of Not Implementing  
Proposed Change:

Alternatives:

#### 2. Initial Review Results of the Change Request

Initial Review Date:  
(MM/DD/YYYY)

Assigned to:

*Action*

*Comments*

Approve for Impact Analysis ☐

Reject ☐

Defer Until (MM/DD/YYYY) ☐

#### 3. Initial Impact Analysis

Items Affected (e.g. product  
specs):

Cost / Schedule Impact Analysis Required? *(check one)*

Yes ☐

No ☐

Impact on Cost:

Impact on Schedule:





## Vittles Drone

### Acceptance and Approval:

The signature below attests that the respective person has reviewed and approved this Project Charter.

\_\_\_\_\_  
Joanna Senseng

\_\_\_\_\_  
Date

\_\_\_\_\_  
Mary Bull

\_\_\_\_\_  
Date

\_\_\_\_\_  
Cory Owens

\_\_\_\_\_  
Date

\_\_\_\_\_  
Hussain Alhafedh

\_\_\_\_\_  
Date

