

# Drones Feeding the World

## **I. Abstract**

Our vision is a network of drones that send and receive food. The food will be crushed and sterilized into a fine powder/sludge, when mixed with water it will become a high protein substance. We are going to install GPS and many other navigation tools. We will also use a drone strong enough to carry food.

## II. Description

### 1. Present technology

Drones exist today. Drones are used today for many reasons. Two primary uses of military drones today are for shooting targets and surveillance. In contrast, commercial drones are being used for a variety of purposes such as package delivery, disaster relief, real estate, recreational use, motion pictures, heavy construction, maintaining energy infrastructure, and even crop-dusting. We have drones for a lot of stuff but not a connection with a network distributing food between people in need.

Present Technology used today:

1. Drones
2. Internet
3. Robotic Claws
4. RC controllers

“The Food and Agriculture Organization of the United Nations listed useful Facts and figures on world hunger:

- Some 795 million people in the world do not have enough food to lead a healthy active life. That's about one in nine people on Earth.

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- The vast majority of the world's hungry people live in developing countries, where 12.9 percent of the population is undernourished.
- Asia is the continent with the most hungry people. One in four there is undernourished.
- Poor nutrition causes nearly half (45%) of deaths in children under five - 3.1 million children each year.
- One out of six children -- roughly 100 million -- in developing countries is underweight.
- One in four of the world's children are stunted. In developing countries the proportion can rise to one in three.
- If women farmers had the same access to resources as men, the number of hungry in the world could be reduced by up to 150 million.
- 66 million primary school-age children attend classes hungry across the developing world, with 23 million in Africa alone.
- WFP calculates that US\$3.2 billion is needed per year to reach all 66 million hungry school-age children.”<sup>1</sup>

Sadly billions of food gets wasted and millions of people do not have food. Our vision is to use drones to feed people who need it.

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1

“Key Facts on Food Loss and Waste You Should Know!” *International Rice Commission Newsletter Vol. 48*, FAO of the UN, [www.fao.org/save-food/resources/keyfindings/en/](http://www.fao.org/save-food/resources/keyfindings/en/).

## **2. History**

Drones have been used for military purposes, satisfaction surveys, and many more purposes. It starts with an unmanned balloon. Then, they made airplanes to spy on the Germans. Next, they made aerial torpedoes. They also made reconnaissance drones. Finally, they made predator drones.

## **3. Future Technology**

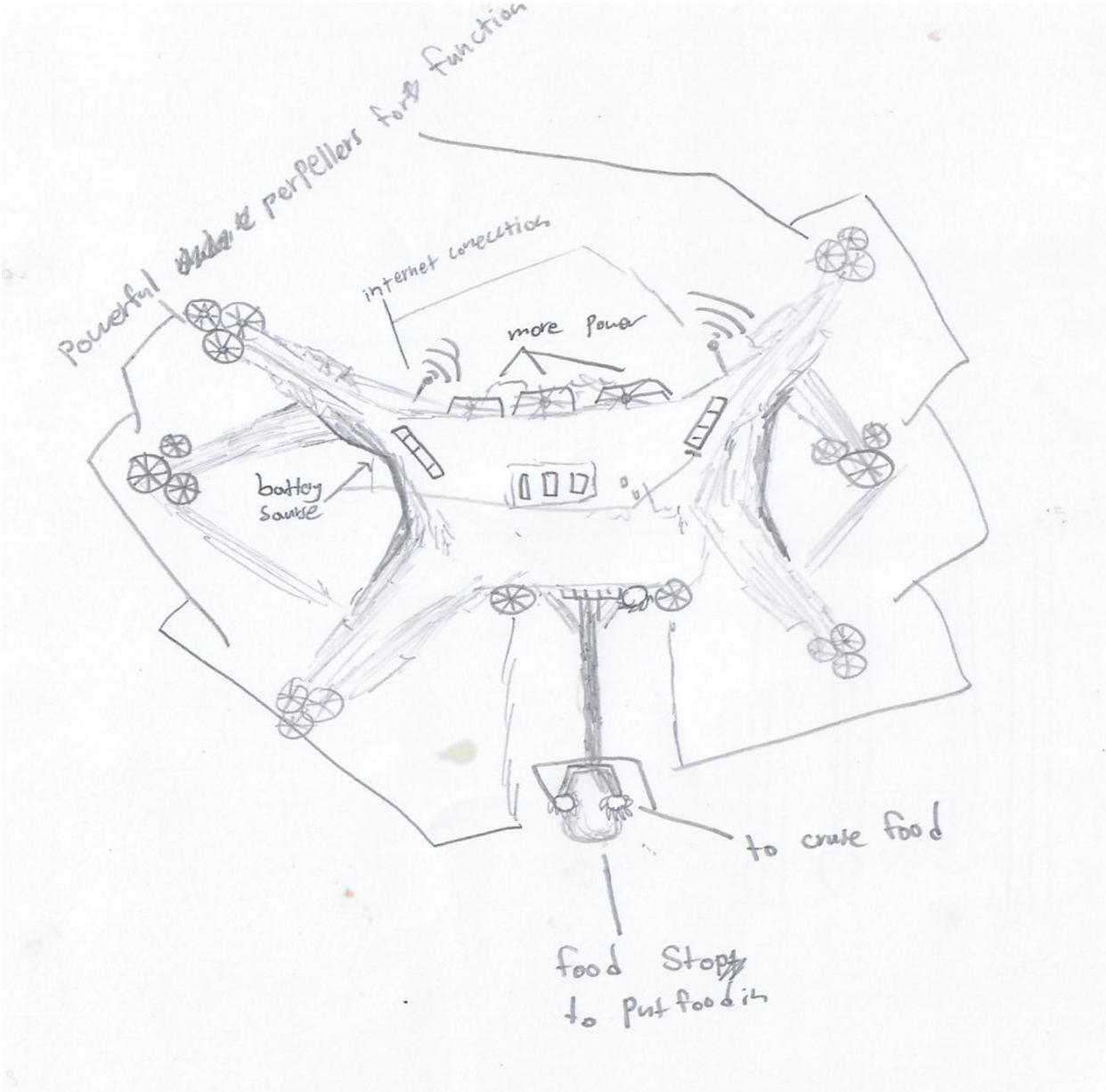
Our idea is a drone that delivers food to the hungry. It will help feed the hungry and maintain food levels consistently and well. We will use a network where people can say that they have excess food and we will send a drone. Someone will say in their city that they need food and the drone will come and deliver the food!

Only if you work there will you be able to send drones from their docking station at the company. We would have holes in the building where drones would load in after some come out. There could be a place where drones could charge the station.

Today's problem is that 1 out of 7 people do not have food and 1 in 3 pieces of food are wasted food. The drone will have a crusher to crush the food into a fine powder or mush in most cases. It will also have a shooting disinfectant so no one gets sick.

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Figure 2 shows our design of the drone. It can hold 45 lbs and we can use a web page to know who has extra food and send a drone to get the food. We can then send it to a hungry person. They will have food!



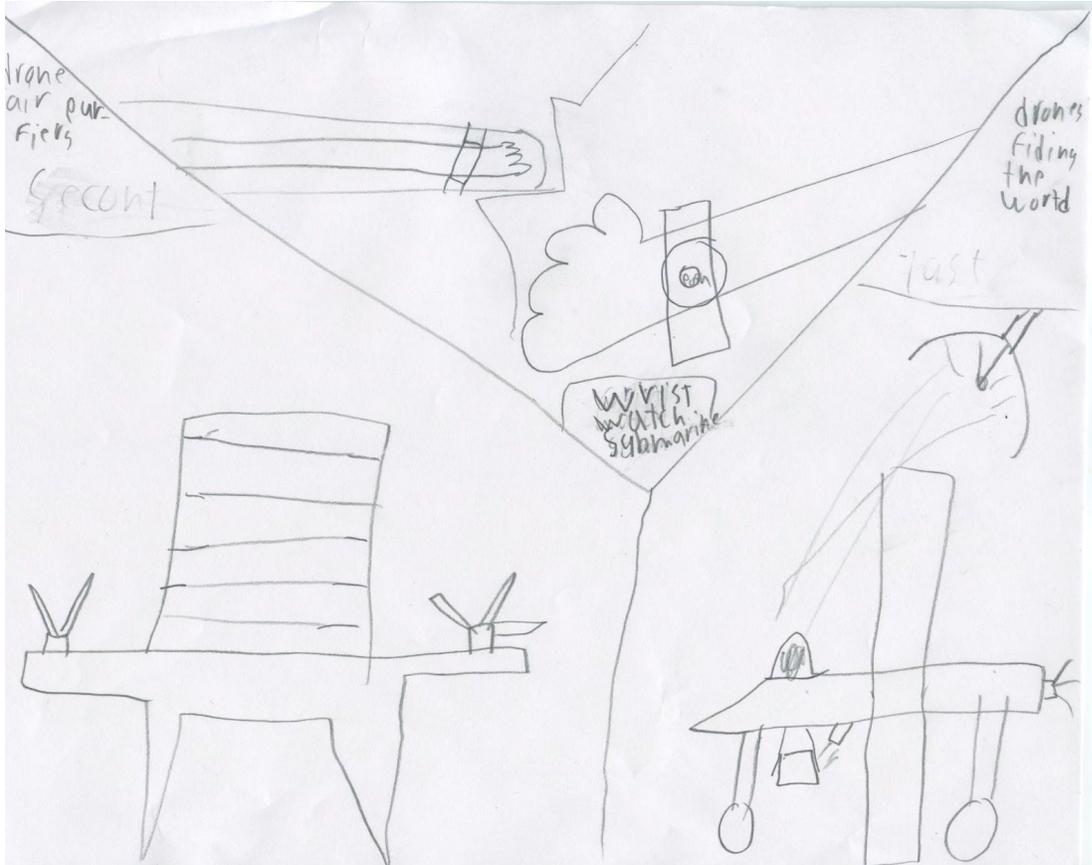
## **4. Breakthroughs**

We need a drone with a tracker and receiver for information to control the drone. We would need a web page to tell the drone what to do and where to go! We would need data on who needs food. We would serve about 100 people in an hour due to the fact that it is traveling at a high speed (73mph). We will test our claw device to drop food. We need to invent software to track the drone and we would need a charging spot to charge the drone. We will add a crusher to make the food in a healthy powder. You add water to make it not as dried and before it cruises it sanitizes it really well.

## **5. Design Process**

Our team sketched the ideas as seen in figure 3. First our team discussed a wrist watch submarine that would provide clean water because of its filter and thirst would be gone. Second idea was a drone air purifier so there will be no air pollution. Third we decided on drones feeding the world so there will be no world hunger. This year we added a crusher to powderise the food. When its mixed with water it will be a protein drink.

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**Figure 3**

### **6. Consequences**

The good side of our vision is that drones can have a long lasting battery.

They can fly out of the way of danger. The drawback is that people can shoot down the drones and steal all the food!! Drone can fall out of the sky. Drones can get out of control. Drones can run out of batteries and crash.

### III. Bibliography

Figure 1: Made by team

Figure 2: Made by team

Figure 3: Made by team

1. “Key Facts on Food Loss and Waste You Should Know!” *International Rice Commission Newsletter Vol. 48*, FAO of the UN.  
[www.fao.org/save-food/resources/keyfindings/en/](http://www.fao.org/save-food/resources/keyfindings/en/).
2. “Zero Hunger.” *World Food Programme*, [www1.wfp.org/zero-hunger](http://www1.wfp.org/zero-hunger).
3. “World Hunger Statistics.” *Food Aid Foundation*,  
[www.foodaidfoundation.org/world-hunger-statistics.html](http://www.foodaidfoundation.org/world-hunger-statistics.html)
4. Sifton, John. “A Brief History of Drones.” *The Nation*, 29 June 2015,  
[www.thenation.com/article/brief-history-drones/](http://www.thenation.com/article/brief-history-drones/).  
“Popular Uses for Drones.”  
*Dummies*, [www.dummies.com/consumer-electronics/drones/popular-uses-for-drones/](http://www.dummies.com/consumer-electronics/drones/popular-uses-for-drones/).
5. Abousen, Doaa. “Doaa Abousen.” *Embedded Systems - Computer ScienceCMU*,  
[www.contrib.andrew.cmu.edu/~dabousen/Default%20-%20Copy%20\(2\).html](http://www.contrib.andrew.cmu.edu/~dabousen/Default%20-%20Copy%20(2).html)

## Drones Feeding the World

6. "Computer Network." *Wikipedia*, Wikimedia Foundation, 29 Jan. 2019, [en.wikipedia.org/wiki/Computer\\_network](http://en.wikipedia.org/wiki/Computer_network).
7. [What Are Drones Currently Being Used for Today? -- The Motley Fool](#)
8. <https://www.fool.com/investing/2017/06/24/what-are-drones-currently-being-used-for-today.aspx>
9. [Popular Uses for Drones - dummies](#)
10. [A Brief History of Drones | The Nation](#)
11. Web page  
image:[https://lh5.googleusercontent.com/proxy/-NjG6r\\_i7vzsTzBAx\\_xoFOPAtuwWfcUVK\\_U\\_TcJQcxu1wFGXWEimSOEZpGX-l-fkcTnaEKHD3PreASf-iMzHSTrWg70FHTUgY5Si5ecPIMIEK697Mgl=w1920-h970](https://lh5.googleusercontent.com/proxy/-NjG6r_i7vzsTzBAx_xoFOPAtuwWfcUVK_U_TcJQcxu1wFGXWEimSOEZpGX-l-fkcTnaEKHD3PreASf-iMzHSTrWg70FHTUgY5Si5ecPIMIEK697Mgl=w1920-h970)
12. "3dr Solo Max Lift Test." *Youtube*, 4 Nov. 2016, [www.youtube.com/watch?v=Vwy5c34AOrE](http://www.youtube.com/watch?v=Vwy5c34AOrE).
13. "Can a Drone Lift." *Youtube*, 2017, [https://www.youtube.com/watch?v=mCuAnY1Qx\\_E](https://www.youtube.com/watch?v=mCuAnY1Qx_E).
- 14.
15. Heron, ken. "Dji Phantom 4." *Youtube*, 15 Mar. 2016, [www.youtube.com/watch?v=Pah6QiHVvlo](http://www.youtube.com/watch?v=Pah6QiHVvlo).
16. "How Much Weight Can a Drone Lift." *Youtube*, 23 May 2016, [www.youtube.com/watch?v=VrX5IXk](http://www.youtube.com/watch?v=VrX5IXk).
17. "World Hunger Statistics." *Food Aid Foundation*, [www.foodaidfoundation.org/world-hunger-statistics.html](http://www.foodaidfoundation.org/world-hunger-statistics.html).

## Drones Feeding the World

18. *Google Search*, Google,

[www.google.com/search?q=drone%2Binformation&rlz=1C5CHFA\\_enUS699US707&oq=drone%2Binf&aqs=chrome.3.69i59j0j69i57j0l3.5095j0j8&sourceid=chrome&ie=UTF-8](http://www.google.com/search?q=drone%2Binformation&rlz=1C5CHFA_enUS699US707&oq=drone%2Binf&aqs=chrome.3.69i59j0j69i57j0l3.5095j0j8&sourceid=chrome&ie=UTF-8).

19. mckinnon, peter. "\$5,000.00 Drone Fine - NEVER Flying Drones Again?"

*YouTube*, YouTube, 6 June 2019, [www.youtube.com/watch?v=wDZAGJh8N-M](http://www.youtube.com/watch?v=wDZAGJh8N-M).

a.

b. "Sterilization in the Food Industry." *Sterilization in Food Industry - Efficiency Finder*,

[wiki.zero-emissions.at/index.php?title=Sterilization\\_in\\_food\\_industry](http://wiki.zero-emissions.at/index.php?title=Sterilization_in_food_industry).

20. O'Donnell, Shea. "A Short History of Unmanned Aerial Vehicles." *CONSORTIQ*,

2019,

[consortiq.com/media-centre/blog/short-history-unmanned-aerial-vehicles-uavs](http://consortiq.com/media-centre/blog/short-history-unmanned-aerial-vehicles-uavs).

## IV. Web Design

Page 1



**Home**   **Present Technology**   **Future Technology Design Process**   **Breakthroughs**   **Sources**

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If you hover your mouse over the picture it will play a video explaining it. When you click on the button in, there will be a pop up with more details.

Home Present Technology

**Future Technology**

Design Process

Breakthroughs

Sources

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We will use a network that people can say that they have excess food and we will send a drone. Someone will say in their city that they need food and the drone will come and deliver the food.



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**Home**   **Present Technology**   **Future Technology Design Process**   **Breakthroughs**   **Sources**

**BREAKTHROUGHS AND WHAT TESTS WE WOULD CONDUCT:**

- We need a drone with a tracker and receiver for information to control the drone.**
- We would need a webpage to tell the drone what to do and where to go.**
- We would need a wind tunnel and a customer willing to use some of their food and a person that needs food.**
- We would need data on who needs food.**
- We would serve approximately a 100 people in a hour.**
- We will have a crusher to crush the food into a fine powder, inserted inside the drone.**
- We need to invent software to track the drone and we would need a charging spot to charge the drone.**