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Prototype: "The Pooper Picker Upper"

Client: Davis Farms, Sioux City, Iowa

Problem Statement

- Design, manufacture and implement a prototype that improves the cleanliness of the chicken coop, while making the process effective and more time efficient.
- Reduce strain on the client by incorporating ergonomic driven design elements.

Objective

- Reduce the cleaning time below 45 min.
- Improve ergonomics.
- Create a prototype that effectively and efficiently improves the chicken coop cleaning process.

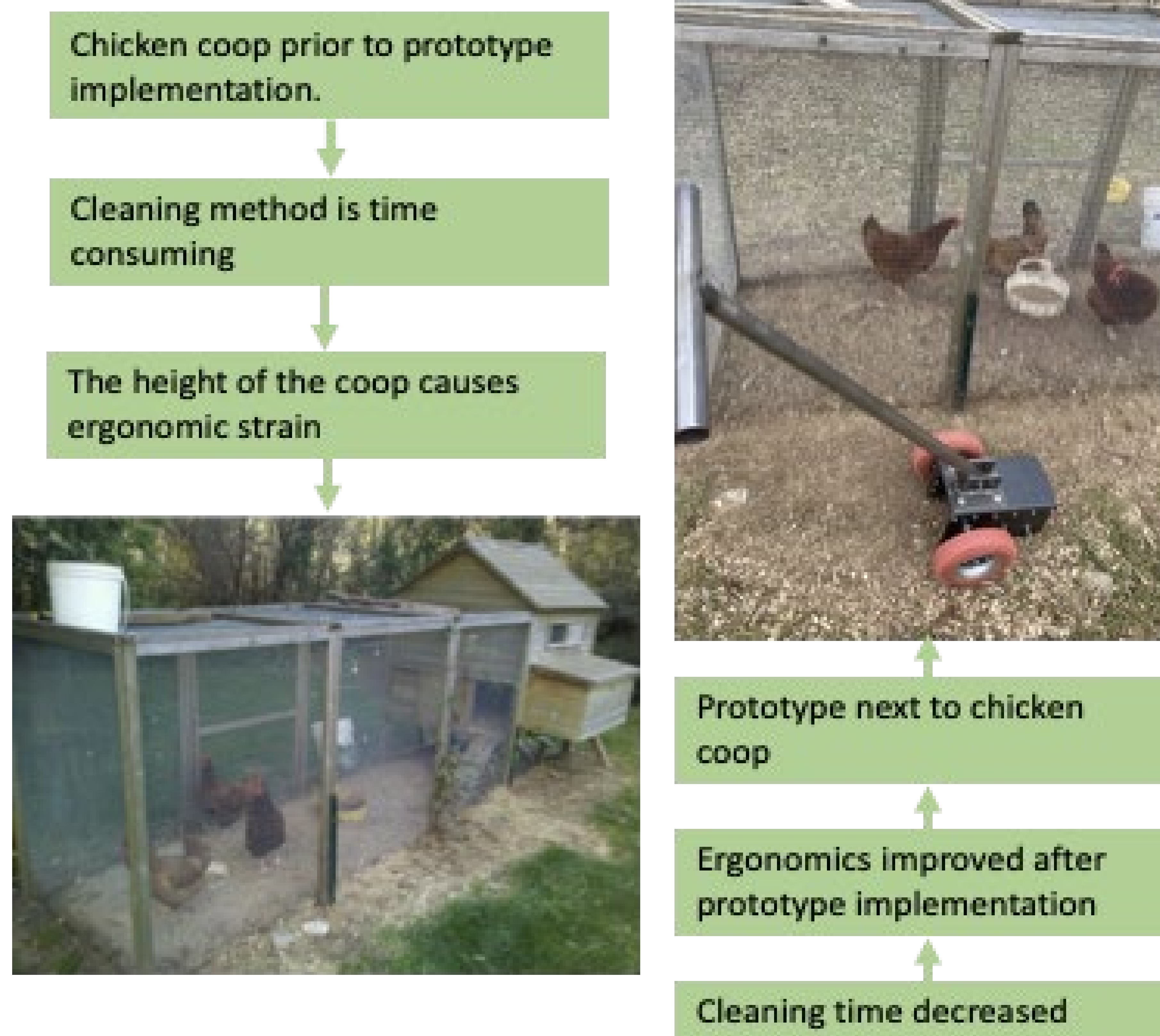
Constraints

- \$500 budget to produce product.
- Project Completion by 03/14/2021.
- Steel internals, aluminum as cover.

Scope

- Designing and manufacturing of prototype.
- Data logs involving chicken coop
- Quantifiable change seen in cleaning time and ergonomics.
- Improved chicken living conditions is a by-product of this project

Prototype Implementation



Methods/Approach

- Designing, manufacturing, and testing the prototype.
- Solid works will be used to design the prototype.
- The prototype will be tested for improvement in the cleanliness of the coop, time, and ergonomics.

Major Deliverables

- 20% reduction of time to clean coop
- Reduced strain on client
- Substantial change in cleanliness
- Prototype is:
 - Durable
 - Effective
 - Efficient
 - Affordable price range

Results

- Results were consistent with our wanted deliverables.
- The time data log showed a 33% improvement (12.5 average minute decrease) .
- The ergonomics survey log showed an average 2 rating improvement with post implementation.

Recommendations

- permanently implementing our prototype into their chicken coop cleaning process
- possibly incorporating other ergonomic improvements into his lifestyle.