PURDUE UNIVERSITY

Agricultural & Biological ENGINEERING

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Farm Information Management System Using OpenATK Apps & Cloud Based Storage

Statement of Problem

On production farms, whether for research or commercial purposes, there are many operations that occur on a day-to-day basis. The ability to communicate all these operations can become very difficult, especially with farms having multiple employees on different involvement levels. Without efficient communication, time can be wasted by employees or managers thinking an operation is complete, when in reality it had not.
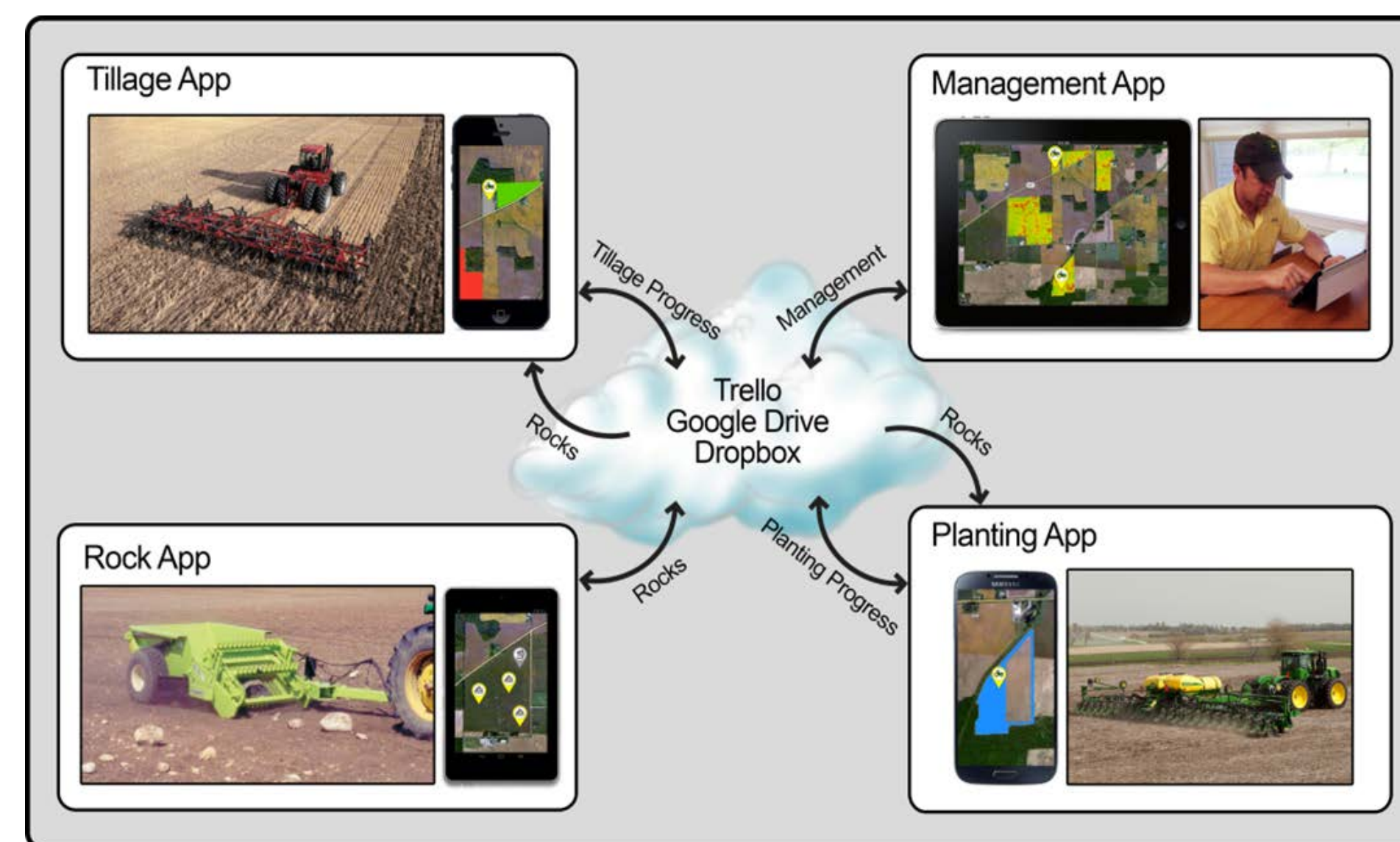
OpenATK apps (Android) were created for in order to obtain a centralized location for storing management information with the use of a cloud based storage system, Trello.
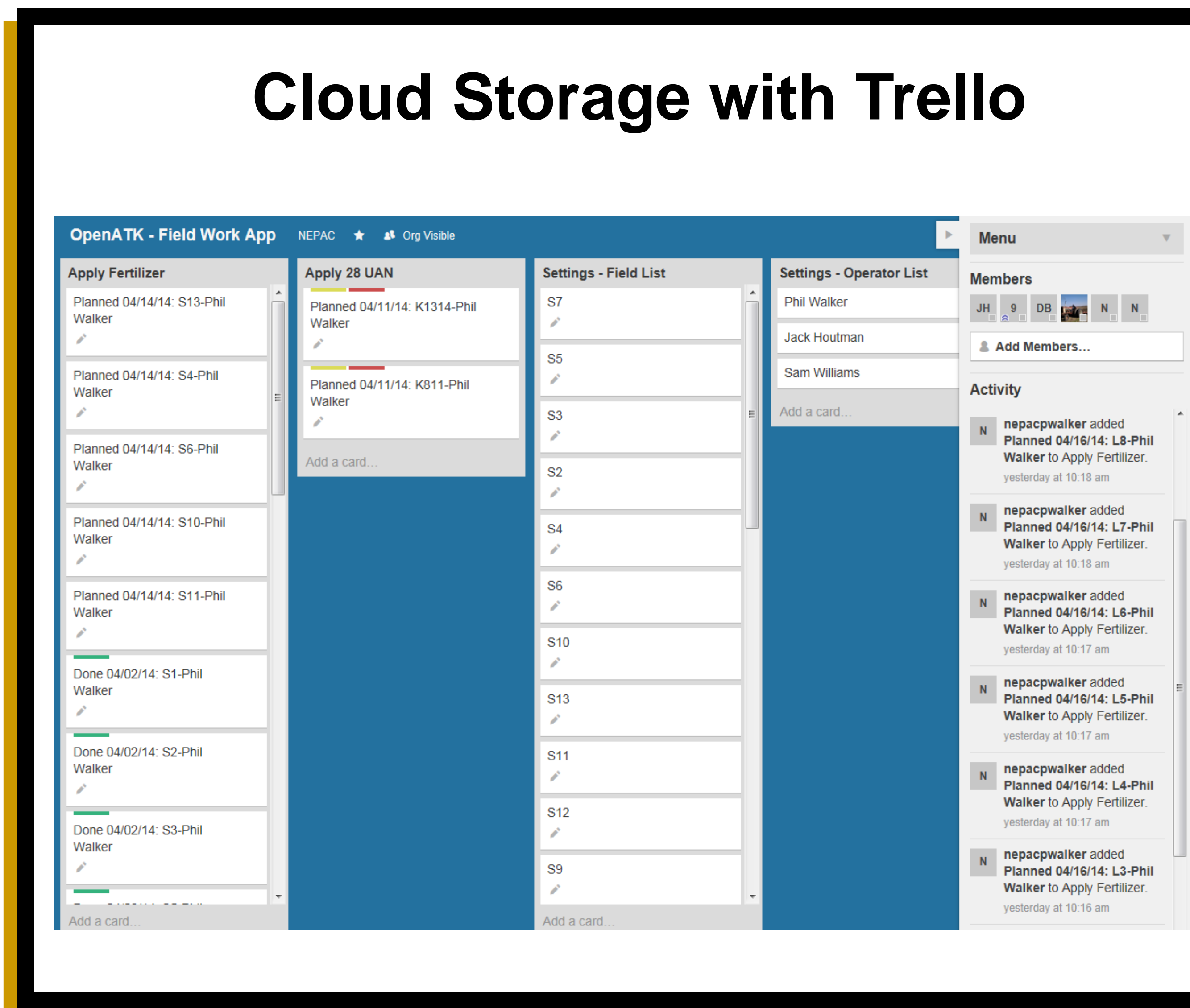
Open
- Free public distribution

Ag Tool Kit
- Suite of Apps
- Individually usable
- Collaboratively powerful

Cloud Storage with Trello

Impacts on Purdue Agricultural Centers

In order to understand the benefits of this farm information management system, implementation on farm was necessary. Two Purdue Agricultural research farm's fields and operations were integrated with OpenATK apps. Farm managers and employees were provided fully outfitted, Android tablets in order to understand all possible benefits. Training and written instructions were provided to ensure full comprehension.

Benefits
- **Easy to use** – operators comfortable with system within two hours on average
- **Increased economic impact** – users saw ability to reduce costly communication errors
- **Ability for off farm research monitoring** – Trello allows global tracking progress of on farm operations

Improvements
- **Organize data from Trello** – ability to organize information into document form
- **Uniformity** – addition of specific inputs based on operation

Benefits and improvements were interpreted with the use of surveys before and after implementation of system.

Phil Walker – NEPAC Superintendent

Jeff Boyer – DPAC Superintendent

Apps In Action

OpenATK Apps

Trello-OpenATK Sync
- Allows information from Field Work and Rock app to sync with Trello.
- Add and remove users of each farm organization

Trello Sync

Field Work-OpenATK
- Create and manage fields within farm organization
- Assign and track specific operations to specific fields
- Google Map view and list view

Field Work

Rock-OpenATK
- Mark using Google Maps, location of rocks on fields
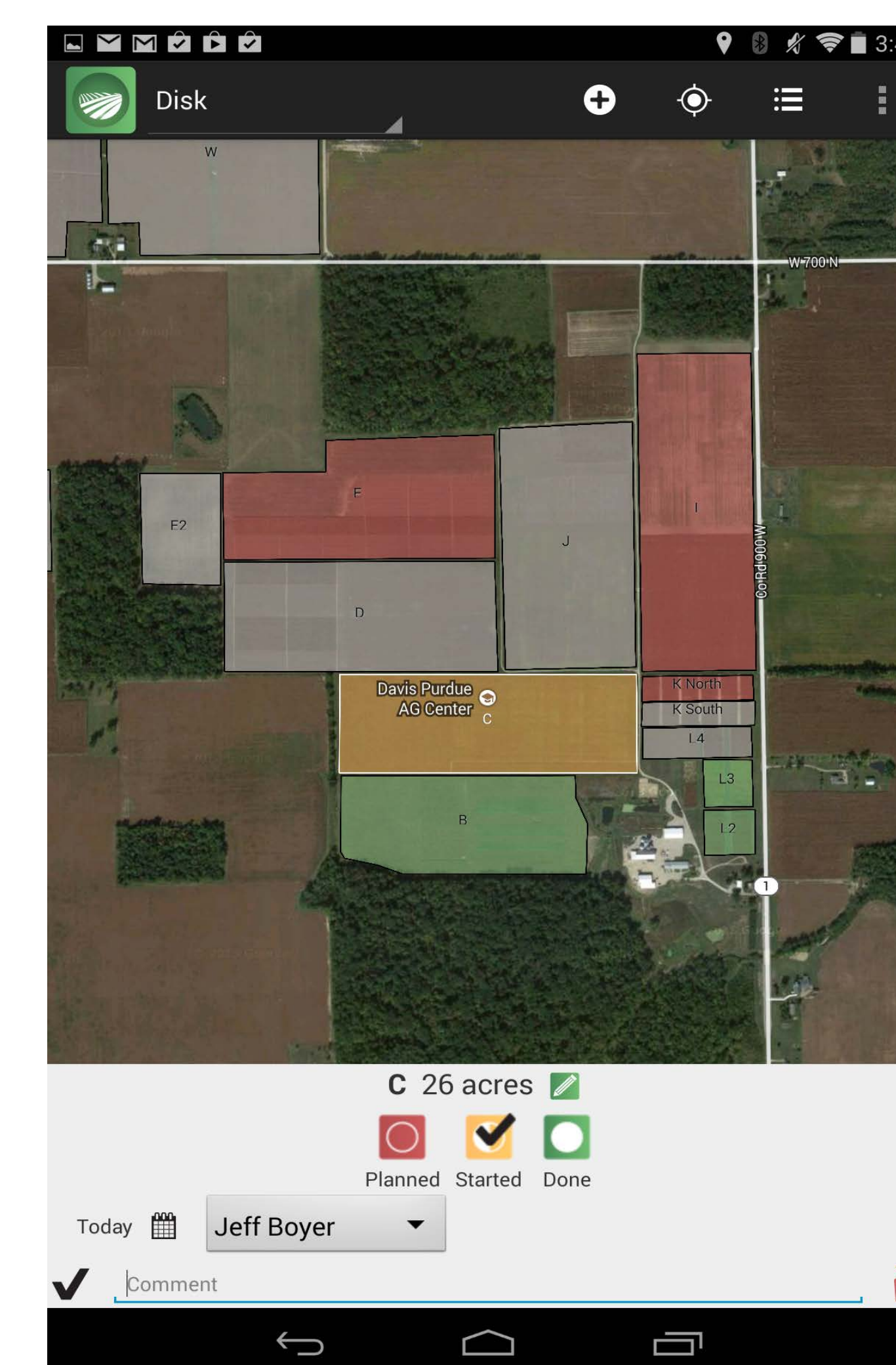- Take picture of rock situation
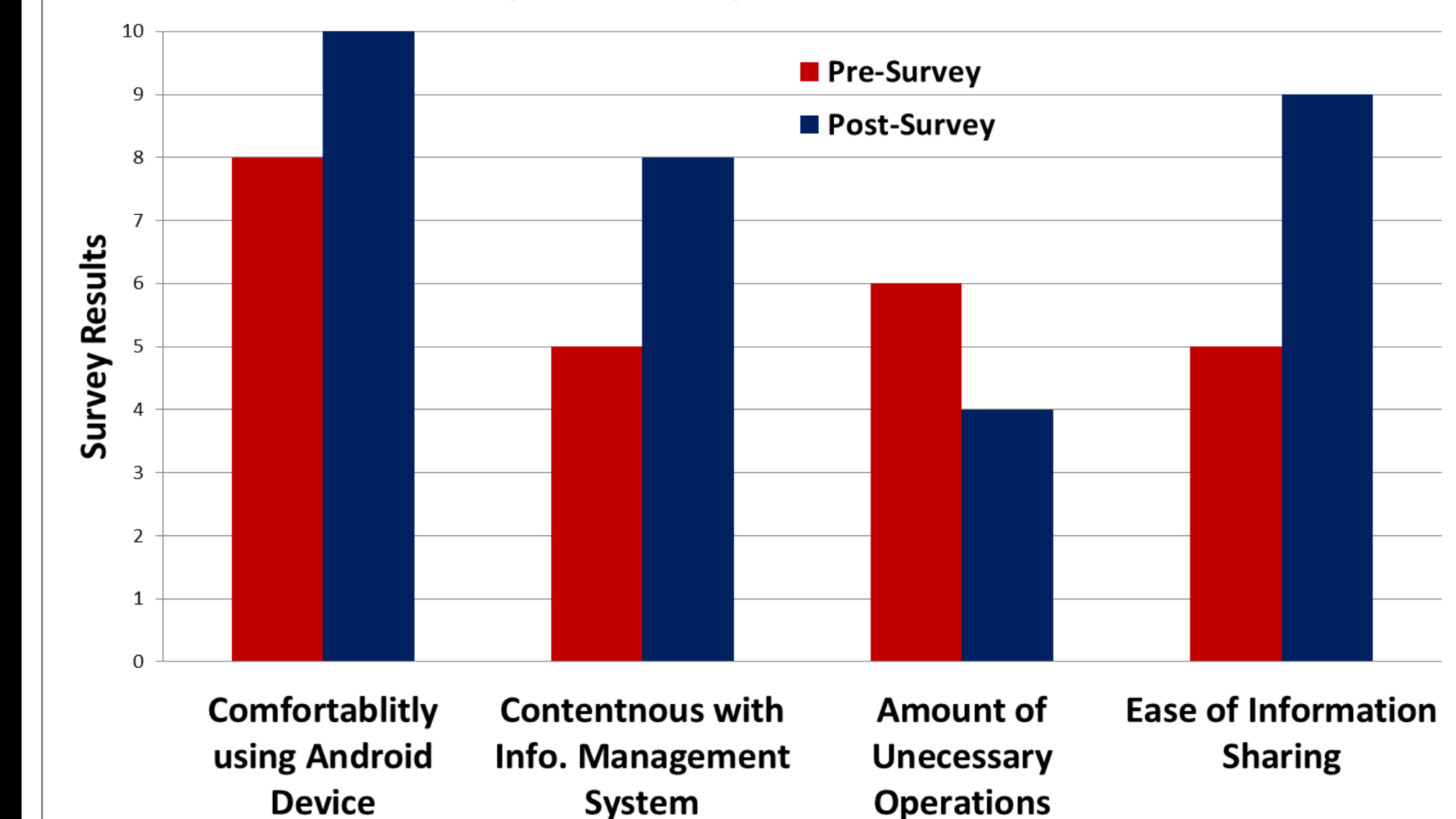- Future use with field scouting

Rock

List View

Map View

Farm Managers Results Before and After System Implementation

Economic Impact

Project Costs	Price	Quantity	Total
*Android Tablets	$217	4	$868
*Tablet Cases	$24	4	$96
Transportation	$0.56	451 mi	$253
			$1,217

Transportation costs taken from Capstone budget allowance

* Funded by Purdue Agricultural Centers

Alternative Ideas

- Create hypothetical farm and integrate system then research benefits based on third party
- Research current information management systems and compare based on personal experience with OpenATK apps

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PURDUE ENGINEERING *Think impact.*