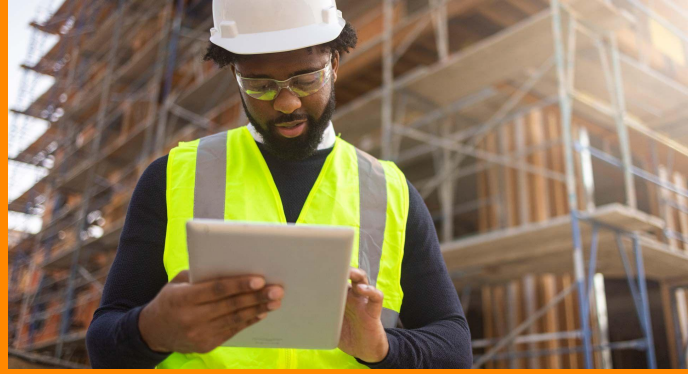
# SiteManager

“Right people. Right equipment. Right on time.”

# Needfinding



- Human Computer Interface
- Semester Project Phase I
- Joseph Koop, Kelvin Gordon, Enrique Garcia

# Project Domain

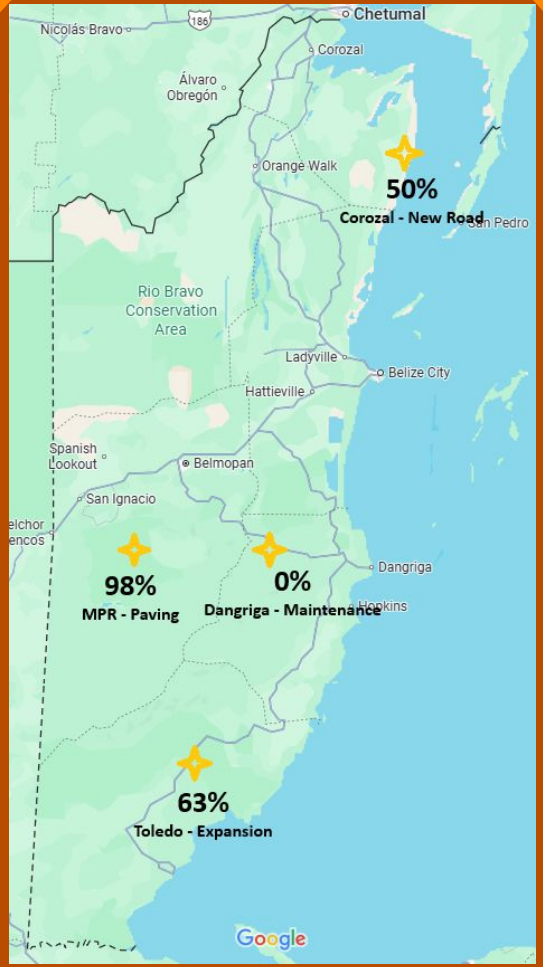
- ★ Construction Project Tracker for Company Manager
- ★ Visual map of project location and completion
- ★ Links employees and equipment to current projects

# The system:

★ Heavy Equipment

★ Active Employees

★ Current Projects




# The Map

- ★ Lists all ongoing projects
- ★ Shows completion %
- ★ Links to separate project pages

# Scalability

- **Live tracking instead of assigned tracking**
  - Check if employees clocked in
  - Trackers on vehicles/equipment
- **Output data to government or public**
  - Construction hazards
  - Road conditions/deterioration state

# Methodology (Questions Asked)

- ★ How do you currently track employees and equipment across different projects?
- ★ What are the biggest challenges you face in managing multiple projects at once?
- ★ How do you keep track of project progress and deadlines right now?
- ★ What kind of system would be valuable to your company?

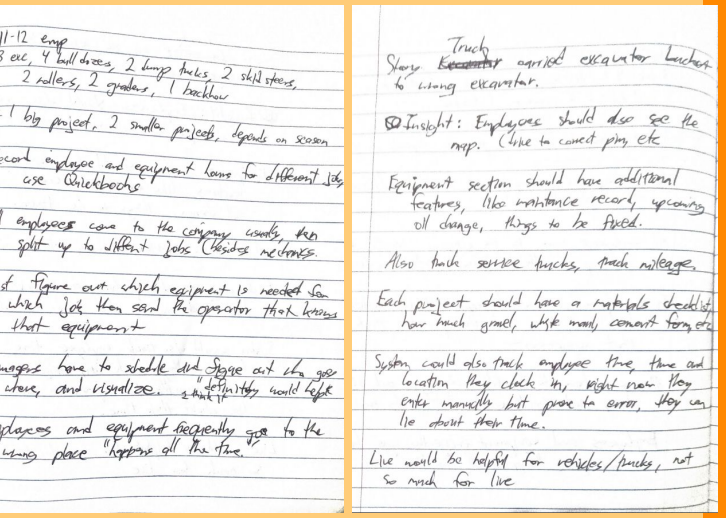
# (More Questions Asked..)

- ★ How do you decide which employees and equipment go to which project?
- ★ Do you have a system that tracks current and completed projects?
- ★ How do you measure the percentage of project completion today?
- ★ What features would make you actually use an app like this?

# Interviewees

- ★ Gideon Banman (Banman Earthmoving operator)
- ★ Delroy Banman (Belize Roadway Construction foreman)

# Gideon Banman



11-12 emp
3 exc, 4 bull dozes, 2 dump trucks, 2 skid steers,
2 rollers, 2 graders, 1 backhoe

1 big project, 2 smaller projects, depends on season

ecord employee and equipment hours for different jobs
use Quickbooks

employees come to the company usually, then
split up to different jobs (besides meetings

st figure out which equipment is needed for
which job then send the operator that knows
that equipment

nagers have to schedule and figure out who goes
where, and visualize. "definitely would help
a lot"

ployees and equipment frequently go to the
wrong place "happens all the time."

Truck

Story ~~Excavator~~ carried excavator bucket
to wrong excavator.

Insight: Employees should also see the
map. (like to correct pins, etc

Equipment section should have additional
features, like maintance record, upcoming
oil change, things to be fixed.

Also track service trucks, track mileage.

Each project should have a materials checklist
how much gravel, how many cement forms etc

System could also track employee time, time and
location they clock in, right now they
enter manually but prone to error, they can
lie about their time.

Live would be helpful for vehicles/trucks, not
so much for live

- ★ 5:30 PM, Sep 4, 2025
- ★ Friend's basement
- ★ Equipment operator at Banman Earthmoving
- ★ Granted interview upon asking

# Needs #1

- ★ Employees should also view map (delivery equipment and material to right place)
- ★ Equipment section should have more features, like tracking maintenance record and upcoming oil changes
- ★ Each project should have a materials list, not only employees and equipment

# Insights #1

- ★ Employees and equipment frequently get sent to wrong location
- ★ Would be helpful if managers had a visual map to plan
- ★ Tracking employee work time would be beneficial for this company
- ★ Live map / Project completion percentage not a priority

# EMPATHY MAP

# SAY

"I think it would definitely help"

Project tracking not very detailed in company

Misplacement "happens all the time"

# DO

Story of a driver carrying bucket to wrong excavator

Differentiated between helpful and unhelpful ideas

Provided valuable feedback on suggestions

# THINK

Had many ideas for project features

Surprise

Allocating resources at least somewhat taxing

Employees might be submitting exaggerated times

Tension

# FEEL

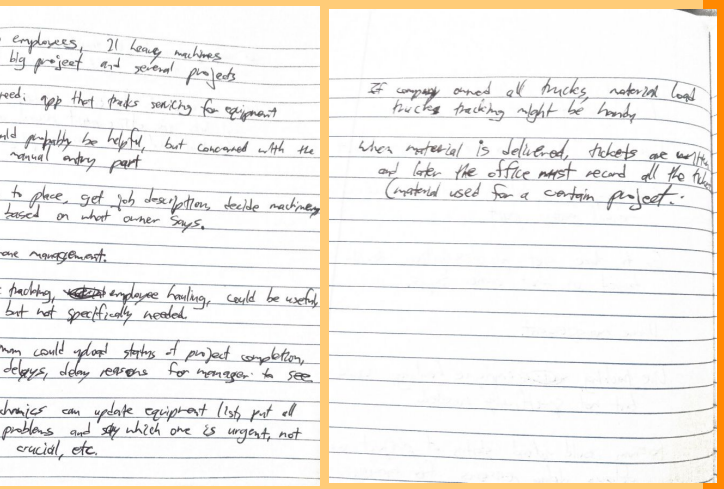
Felt like the project could be very useful

Project and equipment pages should be expanded

Seemed excited about certain features

# Delroy Banman

- ★ 7:45 PM, Sep 4, 2025
- ★ His house
- ★ Construction foreman at Belize Roadway Construction
- ★ Granted interview upon asking



employees, 21 heavy machines
big project and several projects
need: app that tracks servicing for equipment
could probably be helpful, but concerned with the manual entry part
to place, get job description, decide machinery based on what owner says.
one management.
tracking, employee hauling, could be useful but not specifically needed.
man could upload status of project completion, delays, delay reasons for manager to see.
dynamics can update equipment lists, put all problems and say which one is urgent, not crucial, etc.

If company owned all trucks, material load trucks tracking might be handy.
When material is delivered, tickets are written and later the office must record all the tickets (material used for a certain project.

# Needs #2

- ★ Mechanics can track equipment condition in the app, listing issues and the severity of each
- ★ Foreman could upload day’s work results, including any delays and the reason for each

# Insights #2

- ★ Most features seemed like they could be useful, but not worth implementation
- ★ Material recording system seemed very inefficient, still paper-based and double-recorded
- ★ Anything involving manual entry was frowned upon

# EMPATHY MAP

# SAY

"It could be useful but . . . "

Second vote for equipment maintenance tracking

Live tracking / Routing system could come in handy

# DO

Was searching for ideas

Many ideas didn't strike much enthusiasm

Examined ideas critically, to-the-point

# THINK

Anything requiring manual tracking not the greatest

Resource allocation not a hassle

Many features might work but not worth implementing

# FEEL

The company already had good project control

Tension

On-site management can be superior to systems

Excited at thought of a drone management system

Surprise

# Summary

- ★ 2 interviews were conducted
- ★ Many new features not previously considered were brought up by the interviewees that might not have been thought of otherwise
- ★ Exact features desired depended on company

# The End