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## Power of a Nation

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## Authors

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# Power of a Nation

- James Parker
- Connor Smith
- Corbin Swagerty
  - Seth Dennis
  - Robin Hood
  - Joe Esau

# Where we came from

- Rowing Machine
  - Need more power
- Bike Machine
  - Better design
- Needed to increase focus of our impact
  - Meet with Dean

# Evolution of the Idea

- Met with Dean Orsak
  - Got advice
- Suggested we re-evaluate our design process and help US Border slums, the Colonias
- Connected us with architect, Brent Brown
- Decided to gather research and plan a trip to go down to the border



# Road Trip to Colonias

## Hidalgo County:

- County pop. 726K
- Colonia pop. 400K
- Predominantly Hispanic
- 64% US citizens
- 85% of residents under 18
- Approx. 2,300 colonias along the southern Texas border.
- San Carlos colonia sits below sea level, similar to a bowl.



# Goals

1. Connect with Danny Diaz of LUPE
2. Assess current conditions
  - Flood capabilities
  - Public lighting
  - List of community's top concerns
3. Debrief and discuss how our diverse skill sets can most effectively be used.



# Current Flooding Situation

1. Cinder blocks
2. Dirt hills ranging in height from 1.5' to nearly 6'
3. Sump Pump
4. Occasional sand bags.
5. House raised ~16 inches
6. Knee height water on average.
7. Water runs into houses.
8. Sitting water for days on end
9. School buses refuse to run during flooding.





# Lack of Community Support

1. Build on their own homes
2. Neighborhood cleanup
3. Discontinuous sidewalks



# Community Concerns

1. Flooding
2. Public Lighting
3. Septic tank overflow
4. Clean water
5. Community support
6. Inadequate political representation
7. Language barriers
8. Unemployment



# Key Problems

- 1) Flooding
  - Drainage
  - Septic Tanks
- 2) Public Lighting

# Flooding

- Why flooding is a significant problem
  - Geography
  - Water Drainage System
- Why flooding is a priority
  - Health hazards
  - Water damage
- Goals and Solutions



# Possible Alternatives

- Prevent water from reaching house/damaging foundation of the homes
- Find a way to transport water away from the house or redirect
- Prevent an overflow in the septic tanks

# Public Lighting

- Crime
- Set up system or
- Individual units

# Timeline & future

- October
  - Gather Research
  - Visit Colonia
- November
  - Establish our problem
  - Goal setting
- December
  - Design/Plan
- Jan/Feb
  - Build
  - Test
- March
  - Visit
  - Implement
  - Recruit



Questions and comments