Together We Feed!

Presented by

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01 A HANDS-ON APPROACH TO FIGHTING HUNGER"

Together We Feed! is an innovative, interactive solution designed to combat hunger while fostering community engagement. Positioned in high-traffic public spaces such as malls, shopping centers, and bus stops, this captivating installation features a dynamic globe that displays real-time hunger statistics, creating awareness and empathy.

Beneath the globe, a food donation box invites people to contribute non-perishable items, making giving both convenient and impactful. Additionally, the unit supports cashless donations through card payments, offering multiple ways for people to help fight hunger with ease.

This powerful blend of education, engagement, and action transforms everyday public spaces into hubs of social good, uniting people with a shared mission: to nourish the world, one donation at a time.

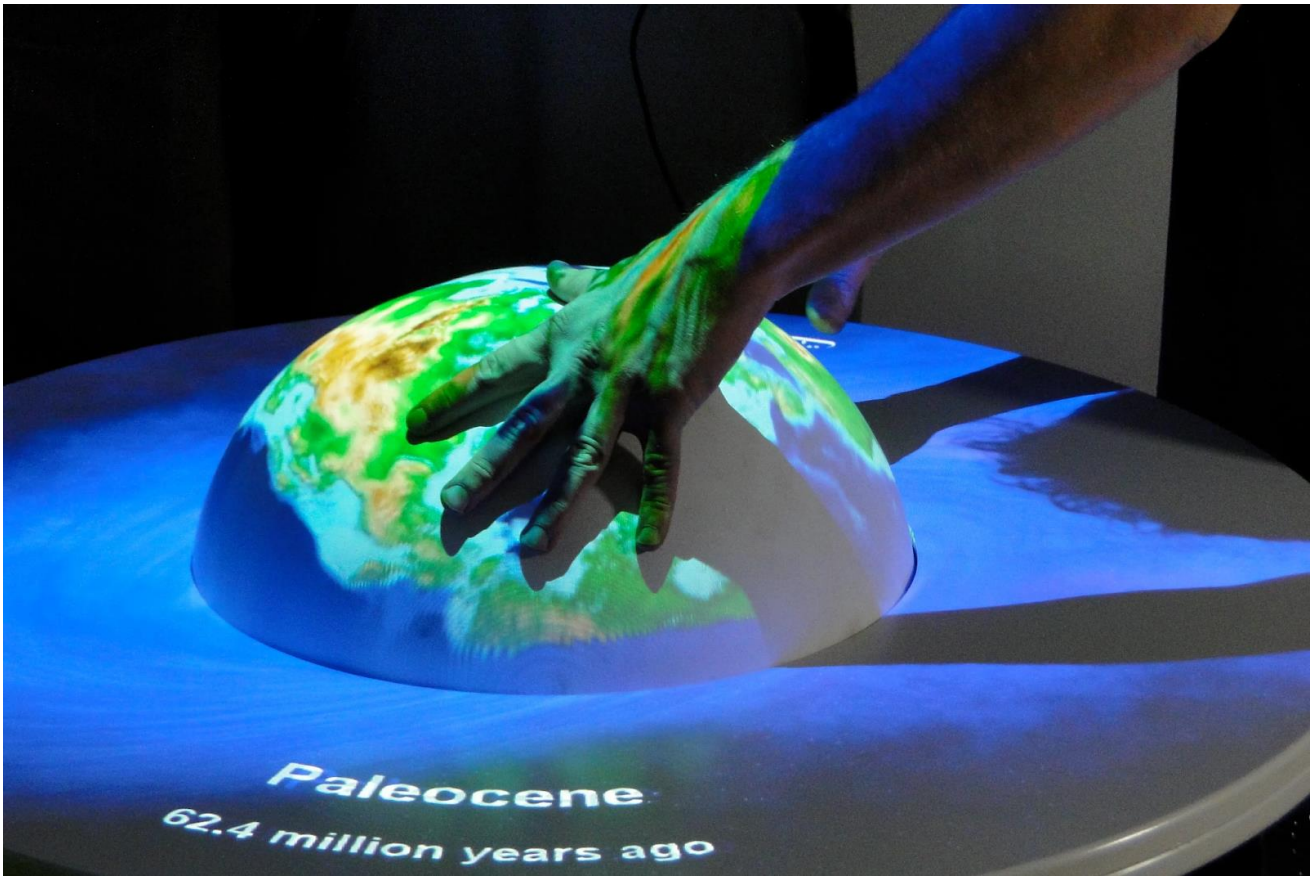
02 PROBLEM

•Hunger remains one of the most pressing global challenges, with over 820 million people experiencing food insecurity daily. Despite this staggering statistic, public awareness and engagement often fall short. Traditional donation models can be inconvenient, impersonal, and fail to create a lasting emotional connection, leaving a significant gap in both participation and impact.

SOLUTION

•*Together We Feed!* directly addresses these pain points by making the act of giving simple, interactive, and emotionally engaging. The dynamic globe draws attention and educates the public with real-time hunger statistics, turning passive bystanders into active participants. The integrated food donation box and cashless payment system remove barriers to contribution, offering a seamless and immediate way for people to help.

03 TECHNOLOGY



Sample Image - how will the projection look like in real world.
Source : https://globe4d.com/

HARDWARE COMPONENTS:

1.Interactive Projection System:

- Use a high-resolution short-throw projector to project interactive content onto the globe's surface.
- Ensure the projector is calibrated for spherical distortion correction.

2.Rotating Globe Mechanism:

- Stepper motors controlled by a microcontroller (e.g., Arduino or Raspberry Pi) to provide smooth, accurate spinning of the globe.

3.Hand Tracking Sensor:

- Leap Motion Controller (or similar infrared-based hand-tracking device) mounted above or near the globe to capture hand movements and gestures.
- Allows users to rotate, zoom, and interact with projected elements on the globe.

03 TECHNOLOGY

1.Proximity Sensors:
- Infrared or ultrasonic sensors to detect when someone approaches the installation, triggering initial animations and lighting effects.

2.Card Reader & NFC Module:
- For processing digital donations with contactless payment methods.

3.Food Insertion Sensor:
- Optical or weight sensors to detect and confirm physical food donations.

4.LED Lighting:
- RGB LEDs around the globe and donation slot for dynamic and engaging lighting effects that change based on user interactions and donation status.

5.Interactive Sound System:
- Directional speakers for immersive audio cues and feedback when interacting with the globe.
- Background soundscapes that adjust dynamically based on the activity.

SOFTWARE COMPONENTS:

1.Interactive Interface:
- Built with Unity for seamless globe projection, animations, and touchless interaction.
- Incorporates gesture controls for spinning, zooming, and selecting elements on the globe.

2.Projection Mapping Software:
- Tools like Touch Designer or Light form to ensure precise alignment and spherical correction of the projected visuals.

3.Real-Time Database:
- Firebase or a similar cloud database to manage hunger statistics, donation tracking, and visual progress.

4.Payment Gateway Integration:
- Stripe, PayPal, or Square API for secure digital donation processing.

5.Data Visualization Library:
- D3.js or Chart.js to dynamically display hunger-related statistics, donation progress, and global impact overlays.

6.Microcontroller Firmware:
- C++ for Arduino/Raspberry Pi to manage globe rotation, LED control, and sensor data.

04 RULES

RULES AND ALGORITHMS FOR INTERACTIVE HUNGER RELIEF GLOBE

1. Proximity Activation:

•Rule: Detect when a person comes within a certain range of the globe.
•Algorithm:

1. Use an infrared or ultrasonic proximity sensor.
2. If the distance is less than a predefined threshold:
    - Activate the globe lights.
    - Display initial global hunger statistics on a nearby screen.
3. If no presence is detected for a set time, return to idle mode (turn off lights and screen).

2. Globe Interaction:

•Rule: Rotate the globe to select a region and display real-time hunger data and cultural facts.
•Algorithm:

1. Track globe rotation using rotary encoders.
2. Map the encoder readings to geographic coordinates.
3. Query a real-time API to fetch hunger statistics and cultural facts for the selected region.
4. Display the information dynamically on the screen.

3. Donation Processing:

•Rule: Allow users to donate either digitally or physically.
•Algorithm for Card Swipe:

1. Detect card swipe using an RFID or NFC reader.
2. Trigger a payment gateway API to process the transaction.
3. On successful payment, display a confirmation animation.

•Algorithm for Food Insertion:

1. Validate food presence using a weight sensor or optical sensor.
2. Confirm the donation with a visual or audio cue.
3. Trigger an animation showing people receiving the donated item.

04 RULES

4. Progress Bar Update:

•Rule: Reflect each donation's impact on the global hunger percentage.
•Algorithm:

1. After each confirmed donation (digital or physical):
    - Decrease the hunger percentage bar dynamically.
    - Update total donation statistics on the screen.
    - Show a visual representation (e.g., filled bowls or smiling faces) indicating the cumulative impact.

5. Animation of Food Distribution:

•Rule: Show a heartwarming animation of people receiving food after each donation.
•Algorithm:

1. Use photo detection or machine learning to identify the donated food item.
2. Based on the identified item, trigger a relevant animation (e.g., a family receiving a meal or children sharing food).
3. Integrate smooth transitions and sound effects for emotional engagement.

6. Idle and Reset Mode:

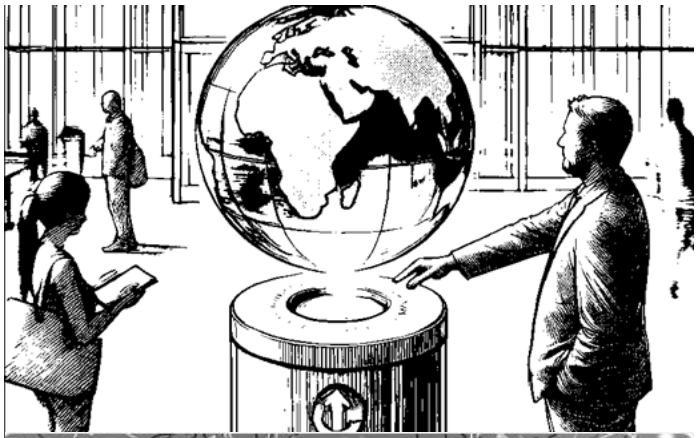
•Rule: Ensure energy efficiency and system longevity.
•Algorithm:

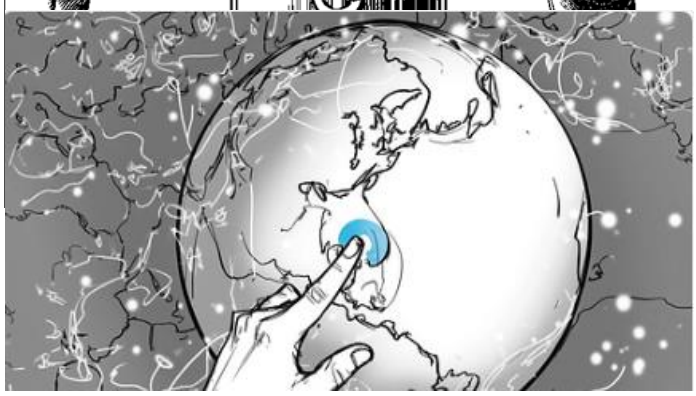
1. If no activity is detected for a predefined period:
    - Dim the lights.
    - Switch the screen to a screensaver or off mode.
2. On detecting a new proximity event, reset the system to active mode.

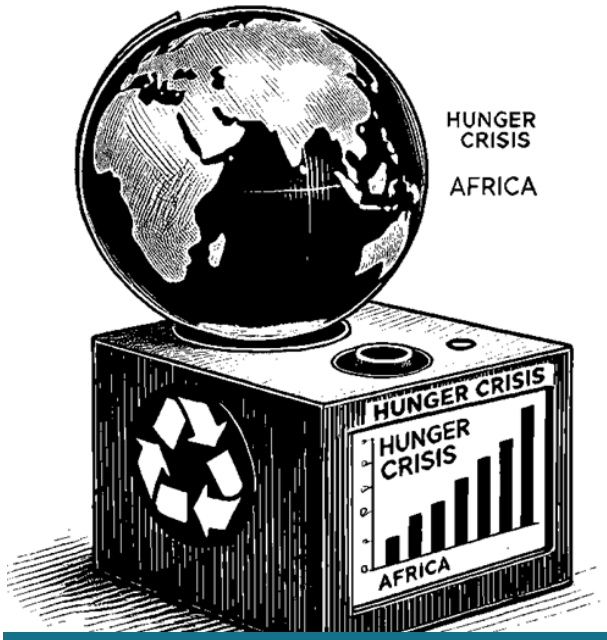
04 STORYBOARD

1. Introducing a fun, engaging way to contribute to the fight against hunger. With this interactive donation box, you can make a meaningful impact by donating food or money while learning about hunger around the world.

2. Explore hunger statistics from around the world with this interactive globe as you turn it, revealing important data about hunger in different regions.







3. When the globe lands on a region, detailed hunger statistics appear, showcasing hunger levels through dynamic bar graphs and data visualizations.

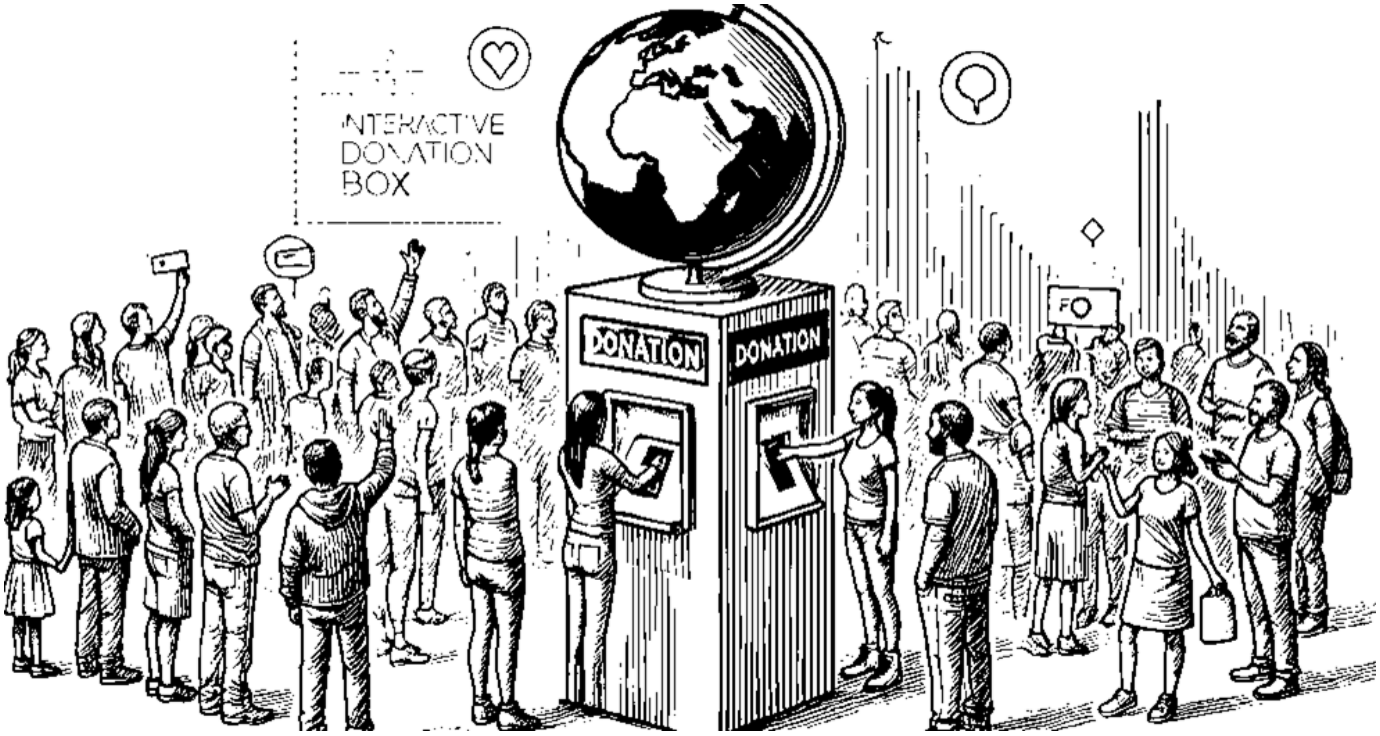
4. Donate by swiping your card or inserting food – every contribution counts. A confirmation screen appears, thanking you and showing your donation being received. If you donate money, an image of a person receiving the funds will be displayed. If you donate food, you'll see a person happily receiving it, assuring you that your donation is reaching those in need.

Sample Image – AI Generated Images

04 STORYBOARD

5. As you approach, the globe activates, lighting up and displaying real-time hunger information, with vibrant lights flickering to show activity."

6. See the impact of your donation as the red line gradually decreases, showing hunger reduction with each contribution



7. Join the cause and make a real difference with your donation. Together, we can build a world where hunger is a thing of the past. Every donation counts, no matter how big or small – your contribution matters! Together, we can create a lasting impact, one donation at a time.

05 OVERVIEW

Our work focuses on creating an interactive and engaging donation system that encourages people to actively participate in the fight against hunger. By designing a donation box with an interactive globe, the goal is to make the act of giving not just easy but also educational and fun. The globe allows users to explore hunger statistics from around the world, making them more aware of the global hunger crisis. This interactive element helps transform a simple donation into an immersive experience, where users feel more connected to the cause.

The intent is to foster a deeper sense of personal connection and responsibility by providing real-time feedback on the donations made. As users interact with the globe, they receive immediate visual confirmation of their donation's impact, such as seeing the reduction in hunger levels. This interactive feature not only informs but also motivates people, giving them a tangible sense of their contribution's significance. The combination of education, interactivity, and instant feedback aims to inspire lasting change and build a community united in tackling hunger."

"Stop the waste, stop the hunger. Trash bins are full, but stomachs are empty. Every little helps - even the smallest contribution can make a difference in the fight against hunger."