Capstone Project Ideas

Brief Description of "Who's Caring"

Alzheimer's patients and their caregivers face daily challenges in managing medical, emotional, and practical needs due to the lack of an integrated support system, leading to increased psychological and social burden.

Why This Problem Was Selected

- Social Significance: Alzheimer's disease is increasingly impacting societies, with cases expected to double in coming decades.
- Service Gap: A lack of structured, holistic support that addresses the multifaceted needs of patients and caregivers.
- Emotional & Practical Impact: The daily burden on families represents a major challenge affecting everyone's quality of life.
- Potential for Impact We see a real opportunity to use Human-Centered Design to develop innovative, scalable solutions.

Target Audience

- Alzheimer's patients (in early to mid-stages).
- Patients' family members (non-professional caregivers).
- Healthcare providers interested in improving quality of care.

Context

The problem occurs at home, in the community, and in medical centers. Challenges are most apparent during daily routines, medical emergencies, and periods of health decline. Insufficient public awareness and available resources make managing the disease more difficult.

Goals

- Gain a deeper understanding of the needs and challenges of Alzheimer's patients and caregivers.
- Identify key opportunities to improve the daily care experience.

- Develop a testable, human-centered prototype for a solution.
- Provide actionable recommendations for healthcare providers and the community.

Additional Notes

- We believe patients and caregivers suffer from isolation and a lack of organized support.
- We assume that daily reminders and support can alleviate the caregivers' burden.
- We believe accessible, reliable information will help improve the quality of care.
- These assumptions are testable and subject to change based on our research findings.
- The project will focus on human needs first, before technological solutions.
- The solution could evolve into a service, application, web platform, or a combination.
- Priority will be given to field research (interviews, observation, workshops) to understand the real context.

We welcome collaboration with relevant health and community organizations.

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Brief Description " The Hidden Treasures"

Egypt's tourism industry, while rich in historical and cultural treasures, faces significant challenges in promoting diverse destinations effectively. Many valuable sites remain underpromoted.

Why This Problem Was Selected

- Tourism is a major source of national income, yet many sites are overlooked.
- Travelers face difficulties due to scattered information, language barriers, and unreliable reviews.
- Small and medium-sized tourism businesses struggle to reach potential visitors.

- There is a clear opportunity to leverage digital tools to enhance visibility and accessibility.

Target Audience

- International and domestic tourists
- Small and medium-sized tourism businesses
- Tour guides and local service providers

Context

The problem arises during trip planning and on-the-ground experiences. Challenges include language barriers, lack of centralized information, unreliable reviews, and limited marketing for hidden gems.

Goals

- Understand the needs and pain points of tourists and local businesses.
- Identify opportunities to promote underrated destinations and improve trip planning.
- Develop a testable prototype for a centralized, multilingual tourism platform.
- Provide actionable insights for stakeholders in the tourism industry.

Additional Notes

- Tourists prefer a single platform for comprehensive, reliable information.
- Multilingual support and trusted reviews would improve trip planning.
- Highlighting hidden destinations could diversify tourism revenue.
- Focus on user needs through field research (interviews, surveys, observation).
- The solution may take the form of a platform, app, or service.

Collaboration with local businesses and tourism authorities will be essential.

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Brief Description "Earth Guard"

Plastic pollution from poor waste management and low recycling rates significantly threatens ecosystems, contributing to climate change, soil contamination, and ocean pollution that endangers both environmental sustainability and human health.

Why This Problem Was Selected

- Plastic production and disposal rely on fossil fuels and generate high carbon emissions.
- Burning or burying plastic releases toxins and pollutes soil/groundwater.
- Plastic takes centuries to decompose, harming ecosystems and wildlife.
- Recycling reduces energy use, raw material consumption, and landfill waste.
- Public awareness and engagement in recycling remain limited.

Target Audience

- Environmentally conscious individuals and households
- Local communities and schools
- Recycling centers and eco-friendly businesses
- Corporations seeking sustainable waste management solutions

Context

The problem occurs at home, in communities, and industrial settings—especially where waste segregation and recycling infrastructure are lacking. Limited accessibility to recycling points and low incentives discourage public participation.

Goals

- Understand barriers to recycling and sustainable behavior.
- Identify opportunities to simplify waste sorting and increase recycling rates.
- Develop a testable prototype for an engaging, incentive-based recycling platform.

- Promote environmental awareness and community collaboration.

Additional Notes

- People lack accessible information about recycling categories and drop-off points.
- Incentives (rewards, discounts) would motivate more people to recycle.
- Educational content and community features can foster long-term behavioral change.
- Focus on user-centered research (interviews, surveys, observation).
- The solution may include a digital platform, app, or service integrating education, incentives, and community engagement.

Collaboration with recycling centers and eco-businesses will be essential.

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After thorough brainstorming and discussion with community stakeholders, our team has chosen "**Who's Caring**" as our capstone project. We believe this problem space offers the most significant potential for real-world impact given the growing challenges faced by Alzheimer's patients and their caregivers. Our decision was also influenced by the team's collective passion for addressing critical social needs and the feasibility of developing a human-centered solution within the project timeline.

Team

1- Lobna Ahmed Fathy Ali (team leader).

2- Nada Gamal fouad tawfek.

3- Ziyad Ahmed Elkhodary Saad Eldeen.

4- Mohamed Hassan Abbas Shalapy Elgendy.