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Special Interest Group on Humanitarian Technology
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Sight Challenge

Created by
IEEE ISI Ariana SB

IEEE Tunisia Section

IEEE Tunisian Students & Young Professionals Congress
TSYP 11th Silicon Valley

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OUR TEAM

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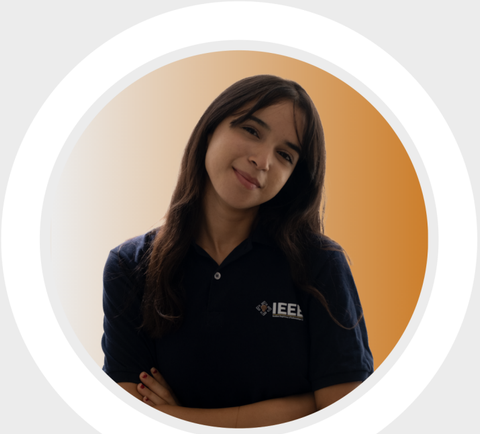

Eya Karmous

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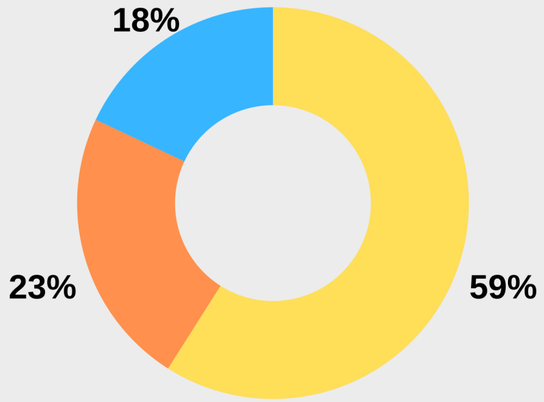
Problematic

Water

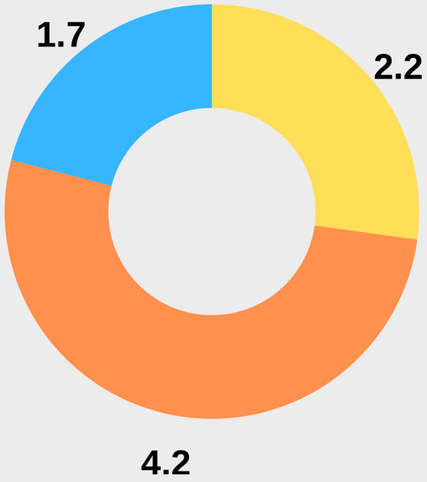
Africa situation :



- Only 59% of the population have basic drinking water services
- Only 23% of the population have basic sanitation services

Sub-Saharan Africa has the lowest access to water and sanitation services in the world

Global situation :



- 2.2 billion people lack safely managed drinking water services
- 4.2 billion people lack safely managed sanitation services

Water scarcity affects more than 40% of the global population

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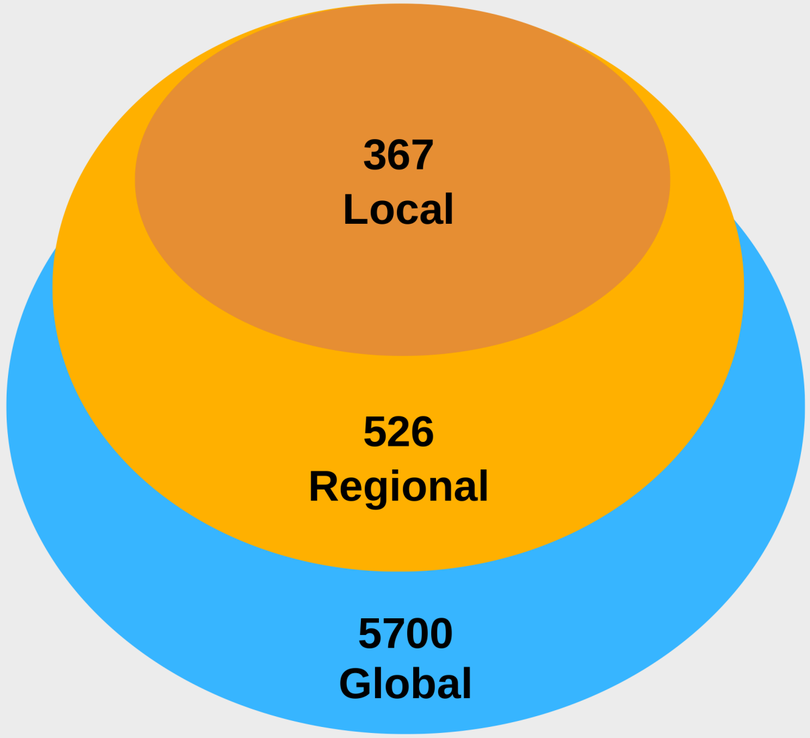
PROBLEMATIC

Water

Tunisia situation



Only **367 cubic meters** of water available per capita in 2017 , compared to a **regional average of 526 cubic meters** and a **global average of 5700 cubic meters**

Achieved universal access to water and sanitation services , but faces challenges in meeting the growing demand and ensuring the sustainability of its water resources

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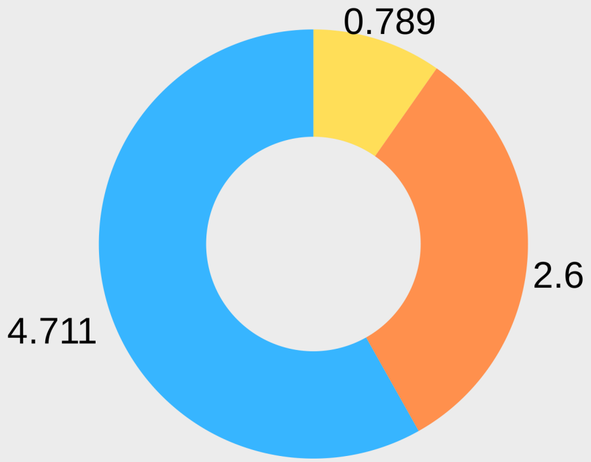
PROBLEMATIC

Energy

Global situation :

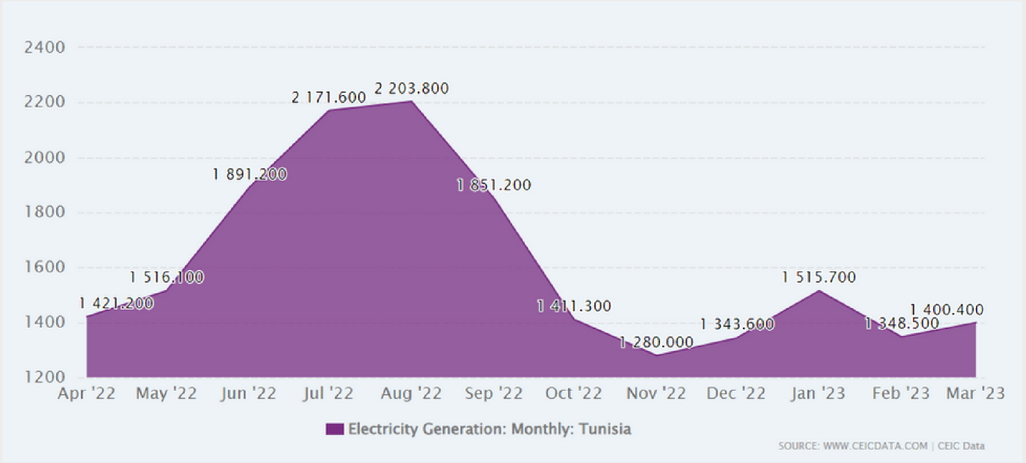


789 million people lack access to electricity

2.6 billion people rely on traditional biomass for cooking

Africa accounts for about two-thirds of the global population without electricity access and three-quarters of the population without clean cooking access

Tunisia situation



Achieved universal access to electricity and increased its shareof renewable energy sources, but faces challenges in diversifying its energy mix and reducing its dependence on fossil fuels

- # Exposing Water Misuse: Clear Proof

-Leaky Faucets
-Running Taps Unnecessarily
-Not Collecting Rainwater
-Not Reusing Greywater

- **Spotlight on Energy Misuse: Clear Proof**

-Leaving Lights On
-Inefficient Bulbs
-Overcharging Devices
-Not Utilizing Natural Light

As we embark on solutions for water and power disruptions, *ask yourself* : Are we resource-wise?

To secure a sustainable future, let's dial down misuse.

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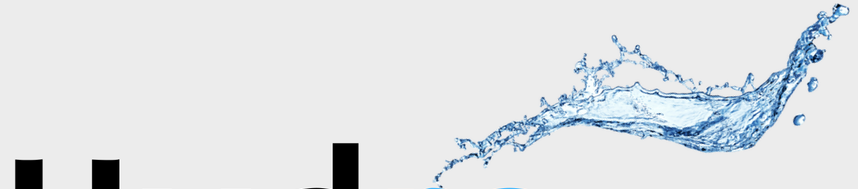
SOLUTION



HydroPower

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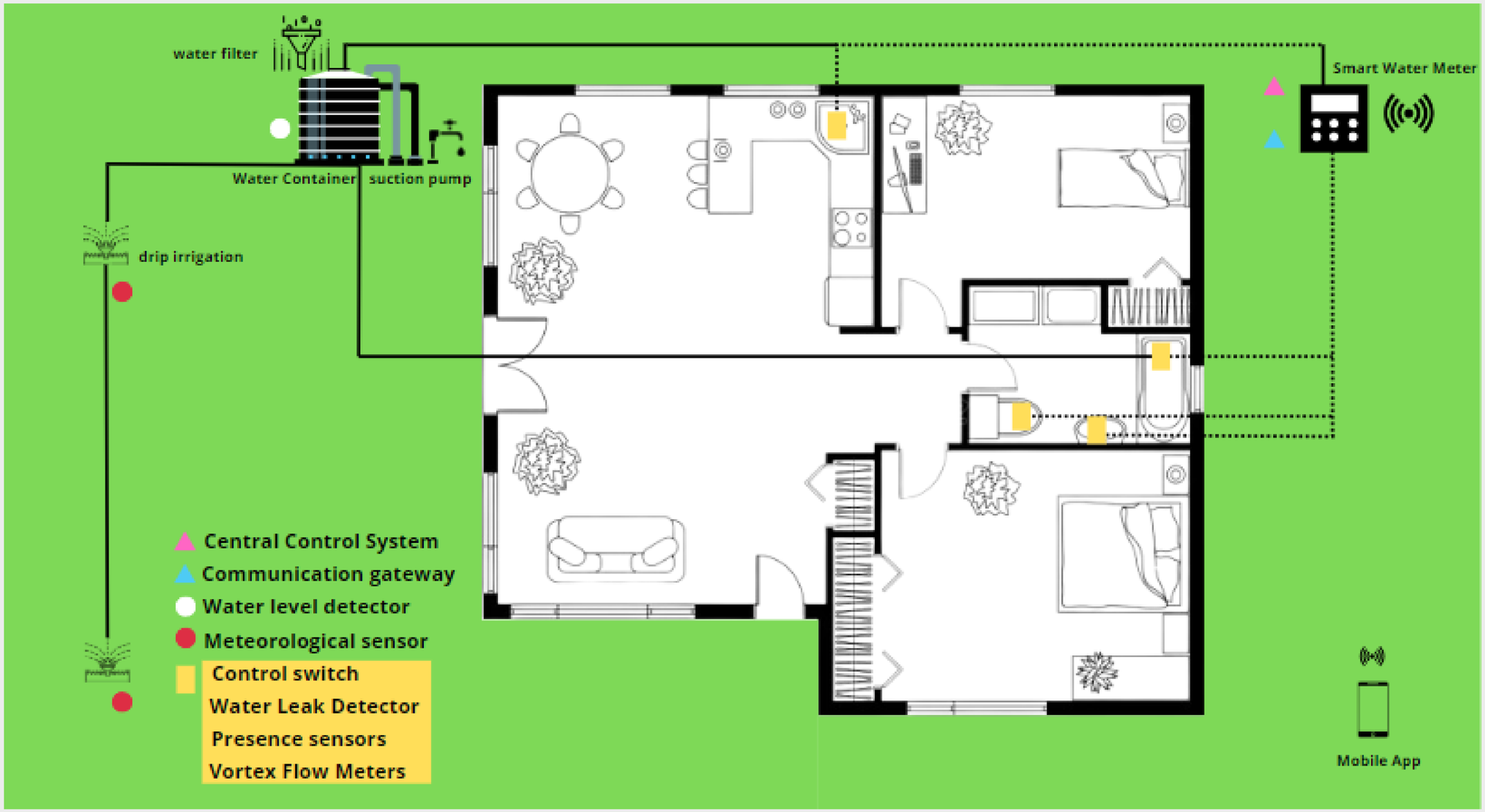
Smart Water Installation Showcase



Figma Prototype: Streamlining Water Management

A glimpse into the user-friendly app designed to complement our Intelligent Water Management System.

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Integrated Water Management System :

1. Intelligent Water Management System
2. Real-Time Oversight
3. Comprehensive Solutions for Efficient Living

4. Smart Water Usage Guidelines
5. Advanced Features for Smart Living
6. Seamless Integration and Rewards

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Integrated Water Management System :

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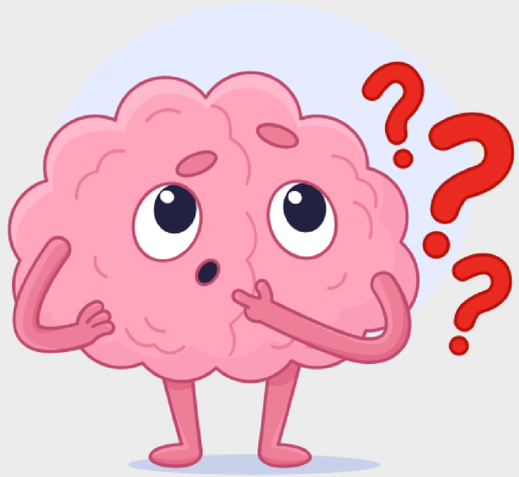
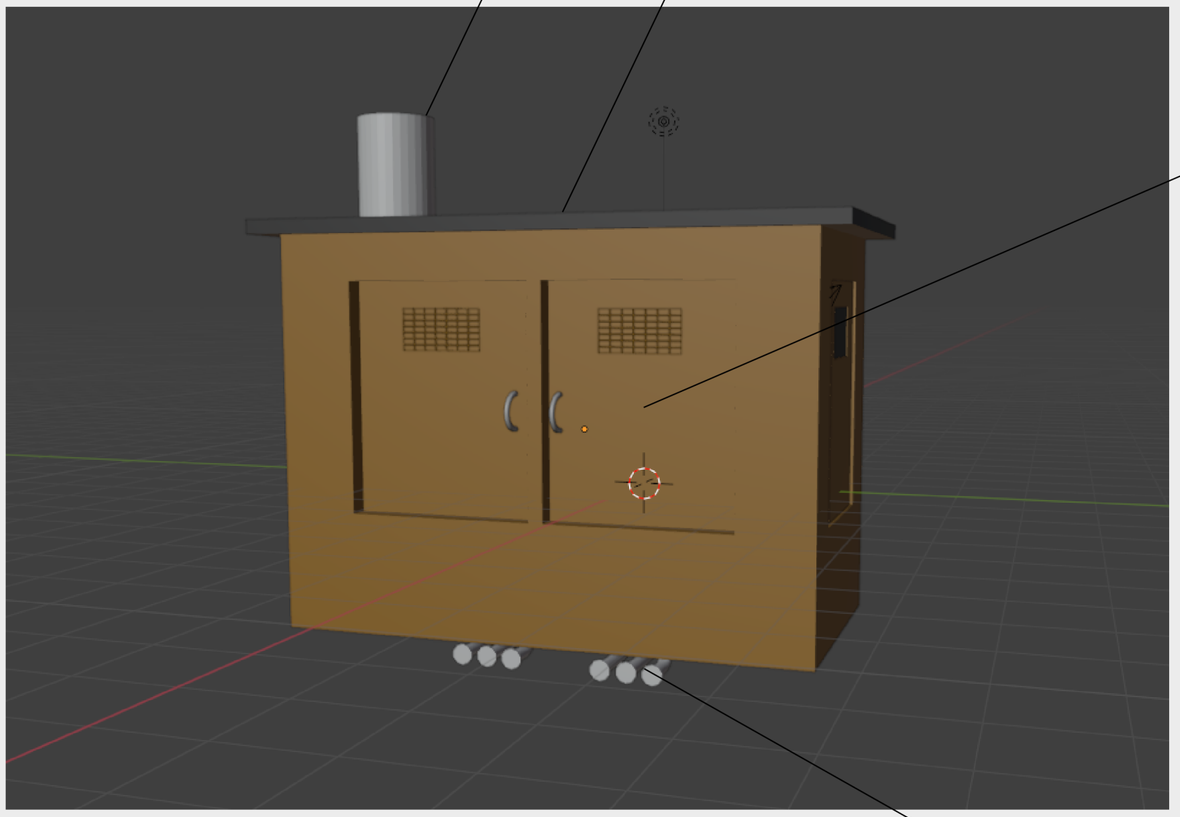


Can the rhythm of our routines light up our surroundings? Let's unveil the EcoEnergi Hub and discover the answer together.

Venting for airflow

solar panel roof



Doors for easy access for maintenance

cabeling to supply buildings with power

Robot Energy Generator

1 Energy Storage

2 Self-Chargin Capabilities

3 Smart Grid Integration

4 Efficient Power Management

5 Fuel Cells

EcoEnergi Hub Technologies :
Where Software Meets Hardware

Software Enchantments:

- **Energized Connectivity:IoT Magic**
- **Cloud Wizards:Sky Guardians**
- **Brainy Algorithms:Machine Learning Maestros**
- **Blockchain Sorcery: Secure Spellbook**

EcoEnergi Hub Technologies :
Where Software Meets Hardware

Hardware Enchantments:

- **Grid Harmony: Smart Grid Ballet**
- **Battery Wizards: Storage Sorcery**
- **Maintenance Magicians: Predictive Wizards**
- **Sensors Overview:**
  -Piezoelectric Flooring
  -Kinetic Patches
  -Vibration Sensors
  -Wind Turbines

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BMC

Key Partners

- **Technology Providers:** Partner with companies that provide advanced energy storage solutions, solar panels, windmills, and IoT technology.
- **Government Agencies:** Collaborate with government agencies for regulatory support and potential incentives for sustainable practices.
- **Maintenance Service Providers:** Establish partnerships for regular maintenance and updates of the devices.

Key Activities

- **Research and Development:** Continuously invest in R&D to enhance the efficiency and capabilities of the energy storage devices and water meters.
- **Manufacturing:** Set up or collaborate with manufacturing facilities for producing the devices at scale.
- **Installation and Maintenance:** Develop a team or partner with service providers for the installation and ongoing maintenance of the devices.

Key Resources

- **Technology Expertise:** Employ skilled professionals for ongoing technology development and improvement.
- **Manufacturing Facilities:** Establish or collaborate with manufacturing facilities to produce the devices.
- **Distribution Channels:** Develop efficient distribution channels to reach the target markets effectively.

Value Proposition

- **Sustainability:** Provide a sustainable solution for both electricity and water needs, reducing dependence on traditional sources and promoting eco-friendly practices.
- **Cost Efficiency:** Offer cost-effective solutions for both consumers and the government, especially with potential savings on water resources.

Customer Relationships

- **Customer Support:** Offer customer support for installation, troubleshooting, and maintenance.
- **Community Engagement:** Engage with the community through events, workshops, and online forums to create awareness and gather feedback.

Channels

- **Direct Sales:** Sell the devices directly to consumers and businesses.
- **Partnerships with Utilities:** Collaborate with utility companies to integrate the technology into existing infrastructure.
- **Online Platforms:** Utilize online platforms for marketing and sales, providing information and support through websites and apps.

Customer Segments

- **Commercial and Institutional Customers:** Schools, gyms, and other places with high activity levels.
- **Residential Customers:** Homeowners interested in sustainable solutions for water and electricity.

Cost Structure

- **Research and Development:** Allocate funds for continuous improvement of technology.
- **Manufacturing Costs:** Cover expenses related to the production of devices.
- **Marketing and Sales:** Budget for promotional activities and sales efforts.
- **Maintenance and Support:** Allocate resources for ongoing maintenance and customer support.

Revenue Streams

- **Device Sales:** Revenue from selling the energy storage devices and water meters.
- **Subscription Services:** Offer subscription-based services for ongoing maintenance, updates, and access to premium features.
- **Government Incentives:** Explore opportunities for revenue generation through government incentives for excess water production.

Metrics

- **Customer Adoption Rates:** Measure how quickly customers are adopting the sustainable solutions.
- **Device Performance Metrics:** Track the efficiency and reliability of the energy storage devices and water meters.
- **Customer Satisfaction:** Monitor customer feedback and satisfaction to improve products and services.
- **Environmental Impact:** Measure and communicate the positive impact on the environment in terms of energy savings and water conservation.

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Thank You For Your Attention

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