# Microgravity Food Planner

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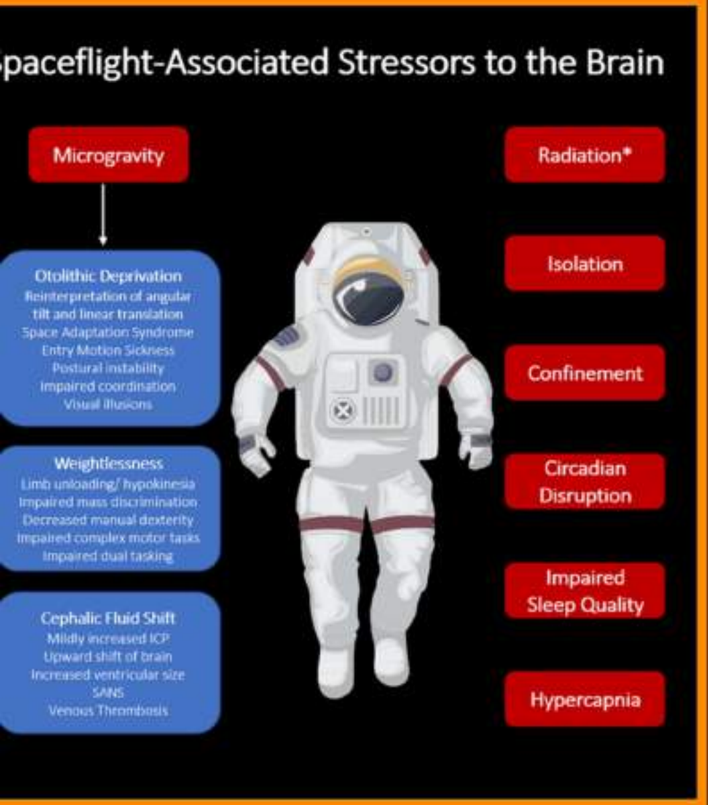
Event :NASA Space App

1. Astronauts live and work in **microgravity,** where normal Earth conditions don't apply.


2. Their daily needs — food, water, sleep, health, and actiivity — must be carefully managed.

**3. Manual planning is difficult, time-consuming, and prone to error.**

**4.** Hence, a **Microgravity Needs Planning App** can simplify life support management in space.




**Managing astronaut needs like nutrtion, hydration ,exercise and sleep in micogravity is complex due**

1. Lack of gravity affecting human metabolism and taste.
2. Difficulty in tracking nutrient intake.
3. Limited access to real-time health data.
4. Food spoilage and inefficient storge.
5. Manual record-keeping and planninng are not pracitcal during missions.

# Food in space


Astronauts require **personalized and automated planning.**

Data-driven decisions ensure safety and efficiency.

Helps NASA/ISRO maintain mission performance and reduce errors.

Acts as a virtual assistant for life support management.

Develop a Microgravity Needs Planning App that uses AI, sensors, and data analysis to plan, monitor, and optimize astronaut needs.

How It Works:

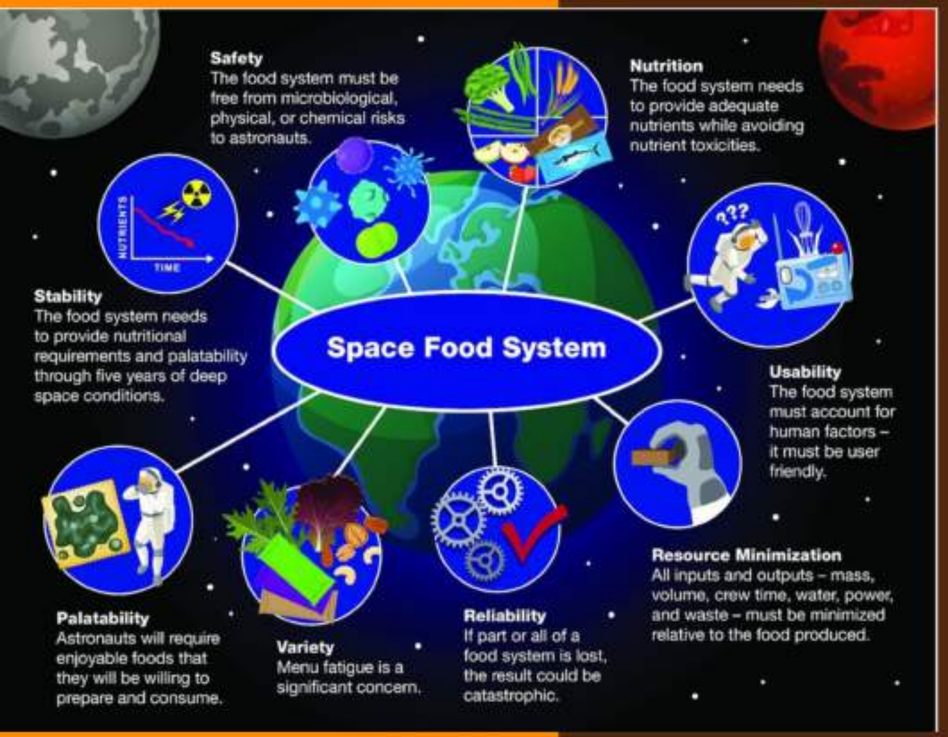
1. Collects health data (heart rate, calorie burn, hydration).

2. Analyzes nutritional requirements.

3. Recommends meals, hydration levels, and exercise schedules.

4. Sends alerts and reminders automatically.

5. Works hands-free with voice assistant integration.




- AI-Powered Planning – Personalized daily schedule.
- .Smart Food Management – Suggests food packs based on nutrition.

- Health Monitoring – Tracks vitals in real-time.dy text
- Voice Control – Hands-free use in microgravity.

- Nutrient & Activity Dashboard – Visual insights for astronauts.
- Offline Functionality – Works without constant internet.


**Input: Health sensors, food database, mission data**

Processing: AI algorithms for diet and activity planning

Output: Alerts, reports, and recommendations

Feedback Loop: Adjusts plan based on astronaut feedback and sensor data

Visual: System diagram with arrows showing d
ata flow.Add a little bit of body text

## Benefits

Enhances astronaut health and performance.

Reduces manual work for mission control.

Optimizes resource usage (food, water, oxygen).

Ensures mission sustainability on long-term space flights.

Visual: Astronauts smiling with organized dashboard.

# Future Scope

Integration with space habitat systems.

Expansion for Mars or lunar missions.

Use in extreme Earth environments (submarines, polar research).

Microgravity Needs Planning App = Smart, safe, and sustainable solution for astronauts.

Supports human survival and efficiency in long-duration space missions.

A step toward AI-driven life support systems in space.


Thank you