**Context**

**Modules**

1. **Real-time Energy Monitoring:** This module enables constant monitoring of energy consumption in different areas of the building and provides real-time data.
2. **Intelligent Automation:** This module allows for the automation of systems such as lighting, HVAC, and ventilation based on occupancy and environmental conditions to optimize energy efficiency.
3. **Load Management:** It controls the electrical load of devices and systems to prevent demand spikes and reduce energy costs.
4. **Inefficiency Detection:** Utilizes sensors and algorithms to detect energy inefficiencies, such as unnecessary lights or faulty equipment.
5. **Reporting and Analysis Generation:** This module collects consumption data and generates reports and analyses to identify patterns, trends, and improvement opportunities.
6. **User Management:** Manages user accounts and permissions to ensure that only authorized personnel can access and make changes to the system.
7. **Alarm and Notification Management:** Configures automatic alarms and notifications in case of critical events or detected inefficiencies.

**Personnel**

1. **Project Manager:** Responsible for project planning, coordination, and overall management, including resource allocation and schedule supervision.
2. **Electrical Engineer:** Expert in energy systems and energy efficiency, responsible for designing and overseeing the implementation of energy management solutions.
3. **Software Developer:** Programmer with experience in developing applications and software for system management and control.
4. **Automation Engineer:** Specialist in control system automation, capable of designing and implementing intelligent automation solutions.
5. **Network Engineer:** Responsible for designing and maintaining the communication infrastructure to connect all devices and systems.
6. **Data Analyst:** Professional in charge of collecting, analyzing, and presenting data for decision-making and report generation.
7. **Renewable Energy Expert:** Specialist in renewable energy sources, responsible for the integration of solar, wind, or other sustainable sources.
8. **Designer (UI/UX):** Designs the system's user interface to be intuitive and user-friendly.
9. **Expert in Energy Legislation and Regulations:** Ensures that the system complies with local and national energy regulations and standards.
10. **Database Administrator:** to ensure that databases run efficiently, securely, and are always available.

**Money**

1. Project Manager: $20,500 per month.
2. Electrical Engineer: $10,000 per month.
3. Software Developer: $10,000 per month.
4. Automation Engineer: $10,000 per month.
5. Network Engineer: $10,000 per month.
6. Data Analyst: $9,000 per month.
7. Renewable Energy Expert: $10,500 per month.
8. UI/UX Designer: $9,000 per month.
9. Expert in Energy Legislation and Regulations: $12,500 per month.
10. Database Administrator: $10,000 per month.

Overall Monthly Salary = $111,500

Project Cost (10 months) = $1,115,000

**Time**

10 months.

**Context 2**

**New Requirement:**

* **Additional remote server:** The client requests an additional master remote server for getting reports of usage for several buildings in different cities, it includes a module in your original project that connects to the remote server.

**Modules**

1. **Centralized Building Management:** This module will act as a central platform that allows adding and managing multiple buildings within the system. It enables the creation of profiles for each building and facilitates centralized administration.
2. **Remote Connection:** Adds secure remote connection functionalities, such as VPN or cloud access, to ensure authorized users can access all building systems securely and remotely.
3. **Update Multi-site Notification Module:** Expand the alarm and notification management module to include alerts that cover multiple buildings. This allows receiving notifications about critical events in any location.
4. **Update Multi-site Reporting Module:** Expand reporting generation capabilities to create consolidated reports covering multiple buildings, making it easier to compare and analyze data across multiple locations.

**Personnel**

1. **Security Expert:** Responsible for ensuring the security of project data and systems against cyber threats.
2. **Quality Control Specialist:** Responsible for ensuring the system meets quality and performance standards.
3. **Technical Support Staff:** Provides support and technical assistance to users and resolves operational issues.
4. **Training Personnel:** Provides training to end-users and the team on system usage.

**Money**

1. **Security Expert:** $11,500 per month.
2. **Quality Control Specialist:** $10,000 per month.
3. **Technical Support Staff:** $7,500 per month.
4. **Training Personnel:** $8,333 per month.

Overall Monthly Salary = **$37,333**

Project Cost (12 months) = **$447,996**

Total = $1,218,000 + $447,996 = **$1,665,996**

**Time**

12 months.

**Context 3**

**New Requirements:**

* **State of the components:** due to the new characteristics of sensors and actuators, the client requests a more interoperable architecture that records the internal state of each component. Statuses range from operable, off, broken, and running.
* **Automatic reports:** Due to a new ecological standard, every system must report the energy efficiency of the monthly operation of the system.
* **Customization:** the system must include screen customization according to the needs of the company's image, including screen color, logo configuration and addition/deletion.

**Modules**

* **Device and sensor management:** a new module must be added which will record the internal state of each component.
* **Multisite reporting module update:** add new functionality that allows the generation of automatic reports. This new feature allows users to configure the desired date range for generating their reports.
* **User profile:** a new module will be created that will serve to configure the profile of each company in which the system is implemented, where the user will be able to manage the customization of the screen according to the needs of the company's image, color and logo.

**Personnel**

To add these new requirements it will not be necessary to hire new personnel.

**Time**

4 months.

**Money**

Overall Monthly Salary = $148,833.

Project Cost (16 months) = **$2,381,328.**