FMEA

1. WBS Wise Resource Requirement

- Planning
    1) Man power (Project Manager, Financial Manager, Strategist…)
- Hardware:
    1) Developing software home assistant (Robot)
    2) Collect necessary hardwares
    3) Smart lighting
    4) Security devices
- Finance (Resource Management)
- Software (Web Application)
- Contingency Risk
    1) Hardware Failure
    2) Software Crash
    3) Cash Flow
    4) Natural Disaster
- Marketing
    1) Social Media
    2) Networking event
    3) Advertising through online
- System analysis and Testing
    1) System analysis and design
    2) Software testing
    3) Equipments testing
- Maintenance

2. Resources wise Cost Budgeting

Task	Budget	Actual	Variance	Expense Date
Planning	1 lakh	80k	20k	22/10/22
Developing software home assistant (Robot)	12 Lakhs	10.8 Lakh	2.2 Lakh	29/10/22

Collect necessary hardwares	8 Lakhs	7 Lakhs	1 Lakh	3/11/22
Smart lighting	1 Lakh	80k	20k	15/11/22
Security devices	3 Lakhs	2 Lakhs	1 Lakh	23/11/22
Finance (Resource Management)	10 Lakhs	8 Lakhs	2 Lakhs	29/11/22
Software (Web Application)	5 Lakhs	8 Lakhs	3 Lakhs	2/12/22
Contingency Risk	20 lakh	18.5 Lakhs	1.5 Lakhs	7/12/22
Marketing	10 Lakhs	9.5 Lakhs	50k	10/12/22
System analysis and Testing	10 lakh	10 Lakhs	0	12/12/22
Maintenance	20 Lakhs	17.3 Lakh	2.7 Lakh	15/12/22
Total	1cr	92.7 Lakh	7.3 Lakh	

3. Project's Risks Assessment:

Some major and minor risks of the project are:

1. Software error: New bugs can arise in software systems. So, identifying those bugs is very important, for which the software QA team must be ready at all times. This risk can be very severe.
2. Customer not satisfied with the system: This can also be a severe issue. To mitigate this, constant feedback must be taken from customers while building the system.
3. Issue in the working sync of software QA team: This might not arise that frequently, but

if it arises it can be severe. The PM must harmonize the sync of the team beforehand.

4. Poor monitoring performance of the system: This can cause a huge loss for the system. To prevent this, Further research and testing might be done.
5. Failure in core automation: This risk has the highest severity in our opinion. If failure happens, that will cause a huge loss for the project. Thus, it should be prevented with proper research.
6. Technical difficulties: This might not happen that frequently but if it does, it can be somewhat severe. So system backup must be ensured.
7. Poor Cash Flow: Inadequate cash flow for this project can be caused by a number of issues, including high overload costs, poor cash management skills, and many more. To control this cash flow, keep precisely reporting the work and investment.
8. Poor Branding: A project cannot move forward due to poor branding that fails to connect with customers and gives them a false impression of the idea of home automation.
9. Failure to Protect Customer Information: As the business depends on customers, protecting their data is important. If we are unable to protect customers' data, it could lead to loss of customer confidence, customers leaving, fines, lawsuits and more.

4. Risks Priority Calculation using the FMEA (Failure Mode Effects Analysis)

Failure	Severity	Likelihood	Detectable	PRN
Issue in the working sync of software QA team	8	7	7	392
Software error	9	7	6	378
Poor monitoring performance of the system	7	6	7	294

Poor Branding	7	6	7	294
Poor Cash Flow	7	5	8	280
Failure in core automation	7	6	6	252
System crash due to overload	7	6	6	252
Failure to Protect Customer Information	7	5	6	210
Customer not satisfied with the system	4	5	7	140
Mismanagement of resources	7	4	5	140