Project Name: Home service & security Automation R&D

1. Project charter document:

1. **Overview:**

There are many things that need to be managed in a home. Completing those tasks can be hectic in day to day life. Automation of these systems can make life easier. Two main aspects of household chores are the service and security, hence the main goal of this project is to automate the service and security perspectives. Below the main tasks are listed:

➢ Service:

- Tasks like cleaning dishes will be automated
- Sweeping the floors will be automated
- Dusting will be automated
- Surveillance of house by robot

➢ Security:

- Entering home using automated face recognition
- Fingerprint detection for valuable item storage
- Theft detection

Milestones:

- Project approval
- Start and end of project phases
- Getting project charter approved
- Securing financing, equipment or resources
- Assembling a project team
- Getting project plan approved
- Project kick-off meeting
- Completing critical tasks
- Producing key project deliverables
- Reaching project goals and objectives
- Project completion

Stakeholders:

- Home owner
- Travelers
- Researcher,
- Engineer
- Software developers
- Service providers

Strategic reasons: The idea of home automation in regard to security and service together is a novel idea in our demographic. Also there is a huge market for this kind of project. Hence, the profitability is high for this.

2. Objectives:

Our objective is to construct a high quality automated home that offers a total solution to perform the daily household chores in an efficient way and to secure the house using modern technology, which eventually restores balance to life with the latest technological devices.

3. General Approach:

In this section, the technological and managerial approaches to the work are described Our enterprise exists because there is still a lot of room for sharing, for equitable human exchange in the world. It exists so that it can monetize sharing, so that everyone gets benefitted. In order to make that experience even smoother, the home service and security automation R&D project is selected. This project falls under the R&D category, hence a lot of research will be needed.

4. Contractual aspects.

- General business contracts: These types of contracts are made between the resource providers and the organization. Also many NDA (Non DIsclosure Agreement) are made with the research team regarding the R&D.
- Employment agreements: Agreements with the employees are made regarding their work ethics and working pattern.
- Licensing agreements: Various products are licensed at several stages due to preserving their authenticity. Hence many licensing documents are made.

5. Schedule:

Task	Duration
1.Planning	1-2 weeks
2. Design	4 months
3. Measure Outcomes	3 weeks
4. Evaluate Feedback	1 month
5. Recheck Plan	2 weeks
6. Implement revised plan	1 week
7. Resource Management	1 month
8. Budgeting	2 weeks
9. Manufacture	2 months
10. Risk Analysis	1week
11. Discussion with Legal Team	2 weeks
12. Marketing	3 weeks

13. Integration	2 months
14. Testing	1 month
15. System Analysis	1 week
16. System Installation	6 days

6. Resource requirements:

Type Of Resource	Resource Details	Budget	Priority
Software	Application	10 lacs	High
Hardware	For home automation devices	35 lacs	Very High
Machine	CPU, Laptop, Robot, Remote	25 lacs	Very High
Employees	Staff, Engineers, Architectures, Testers, Developers, Managers	20 lacs	High

7. Personnel:

Some special skills are required to accomplish this project. These are listed below:

- Engineering knowledge
- Software knowledge
- Research regarding automation
- Budgeting skill
- Marketing skill

There are some special legal requirements that are needed for safety, which are:

- Risk Insurance
- Project contract
- Change control
- Imposing restrictions
- Interpretation of Contract
- Non Disclosure Agreement

8. Risk management:

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. System crash due to overload: This might not happen that frequently but if it does, it can be somewhat severe. So system backup must be ensured.

9. Evaluation Methods:

Task	Responsible
1.Planning	Project Manager
2. Design	Project Engineer
3. Measure Outcomes	Project Manager
4. Evaluate Feedback	Risk Manager
5. Recheck Plan	Project Manager
6. Implement revised plan	Senior Manager
7. Resource Management	Risk Manager
8. Budgeting	Financial Manager
9. Manufacture	Project Engineer
10. Risk Analysis	Risk Manager
11. Discussion with Legal Team	Field Manager
12. Marketing	Financial Manager
13. Integration	Project Manager
14. Testing	Field Manager
15. System Analysis	Project Engineer

16. System Installation	Project Engineer

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2. WBS (Work Breakdown Structure):

Task	Duration	Predecessor	Resources	Assigned To
1. Planning 1.1) Plan Meeting 1.2) Strategy meeting 1.3) Schedule planning	1-2 weeks	none	Project Manager, HR, Financial Manager, Strategist	Project Manager
2. Design 2.1) Developing software home assistant 2.2) Collect necessary hardwares 2.3) Smart lighting 2.4) Security devices	2 months	1	Software Developer, Hardware Engineer, Field Manager	Field Manager
3. Measure	3 weeks	1,2	Senior	Senior

Outcomes			Manager	Manager
4. Evaluate Feedback	1 month	3	Employees	Senior Manager
5. Recheck Plan	2 weeks	4	Senior Manager	Senior Manager
6. Implement revised plan	1 week	3,4	Employees, HR Staff, Senior Manager	Senior Manager
7. Resource Management 7.1) Finance 7.2) Software 7.3) Hardware 7.4) Man power	1 month	2, 6	Hardware Engineers, Software Engineers, Employees	Resource Manager, Finance Manager
8. Budgeting 7.1) Find out the spend section 7.2) Budget estimation 7.3) Budget allocation	2 weeks	2,7	Financial Manager, Project Manager, Senior Manager	Finance Manager, Project Manager
9. Manufacture 9.1) Energy Management 9.2) Air-con and	2 months	2,7,8	Mechanical Engineer, Field Manager, Senior	Mechanical Engineer , Software developer

lights 9.3) Security equipments			Manager, Interior Designer, Software developer	
10. Risk Analysis 10.1) Marketing Risk 10.2) Implementation risk 10.3) Potential crisis	1week	7, 8	Risk Manager, Engineers	Project Manager
11. Discussion with Legal Team 11.1) Hiring Lawyer 11.2) Set privacy & policy.	2 weeks	1	Lawyer, Security Manager, Financial manager	Financial Manager
12. Marketing 12.1) Advertising 12.2) Product tagline 12.3) Review existing market condition	3 weeks	11	Marketing Manager	Project Manager
13. Integration	2 months	2,7,8,9	Project Manager	Project Manager

14. Testing 14.1) Software testing 14.2) Security equipments testing	1 month	9,10, 13	UX designer, Robot specialist, Mechanical Engineer Project Manager	Project Manager
15. System Analysis	1 week	13,14	Senior Manager	Senior Manager
16. System Installation	6 days	14,15	Project Manager, Tester, System Consultant, Senior Testers	Project Manager

3. RACI Matrix:

Project Office						Field Operator
Task	Project Manager	Project Engineer	Risk Manager	Senior Manager	Financial Manager	Field Manager
1.Planning	R	C	A	C	I	I
2. Design	C	R		A		I

3. Measure Outcomes	R	A	C	C	I	I
4. Evaluate Feedback	A	C	R	C	I	I
5. Recheck Plan	R	C	A	I		
6. Implement revised plan	C	A	C	R		I
7. Resource Management	C	C	R	I		A
8. Budgeting	A	C			R	I
9. Manufacture	I	R		C		A
10. Risk Analysis	C	C	R	A		
11. Discussion with Legal Team	A	C	C	C		R
12. Marketing	C	C		A	R	
13. Integration	R	A		I		
14. Testing	C			A		R
15. System Analysis	C	R	I	A		
16. System Installation	C	R	C	A		

Legend:

R	Responsible	The actual executor of the tasks	1 person per task
A	Accountable	Delegates work and is the last one to review the task or deliverable before it's deemed complete	1 person per task
C	Consulted	Provides input based on how it will impact their project work or their domain of expertise on the deliverable itself	No max or min
I	Informed	Needs to be kept in the loop on project progress	No max or min