



B.S. Abdur Rahman™

Crescent
Institute of Science & Technology
Deemed to be University u/s 3 of the UGC Act, 1956

AI KITCHEN

Aarthi D - 230051601001

Kirthana R - 230051601037

Sonica . S - 230051601107

Samrutha N - 230051601098

M Tahseena - 230051601119

Mentor Name : Dr.R.Anitha A.P (Sel gr)

PROBLEM STATEMENT

Develop an interactive AI kitchen interface to facilitate efficient preparation of customized dishes. The interface allows users to select from various biryani types (Mushroom, Vegetable, etc.) and specify quantities dynamically. Challenges include integrating with embedded systems for automated vessel selection and implementing AI algorithms for personalized ingredient recommendations. Deliverables include a user-friendly interface displaying detailed ingredient lists and cooking steps, with potential hardware integration for enhanced user convenience. This project aims to streamline cooking processes, leveraging AI technology to optimize ingredient selection and cooking instructions tailored to user preferences.

UNIQUE IDEA BRIEF (SOLUTION):

AUTOMATED CULINARY ASSISTANT

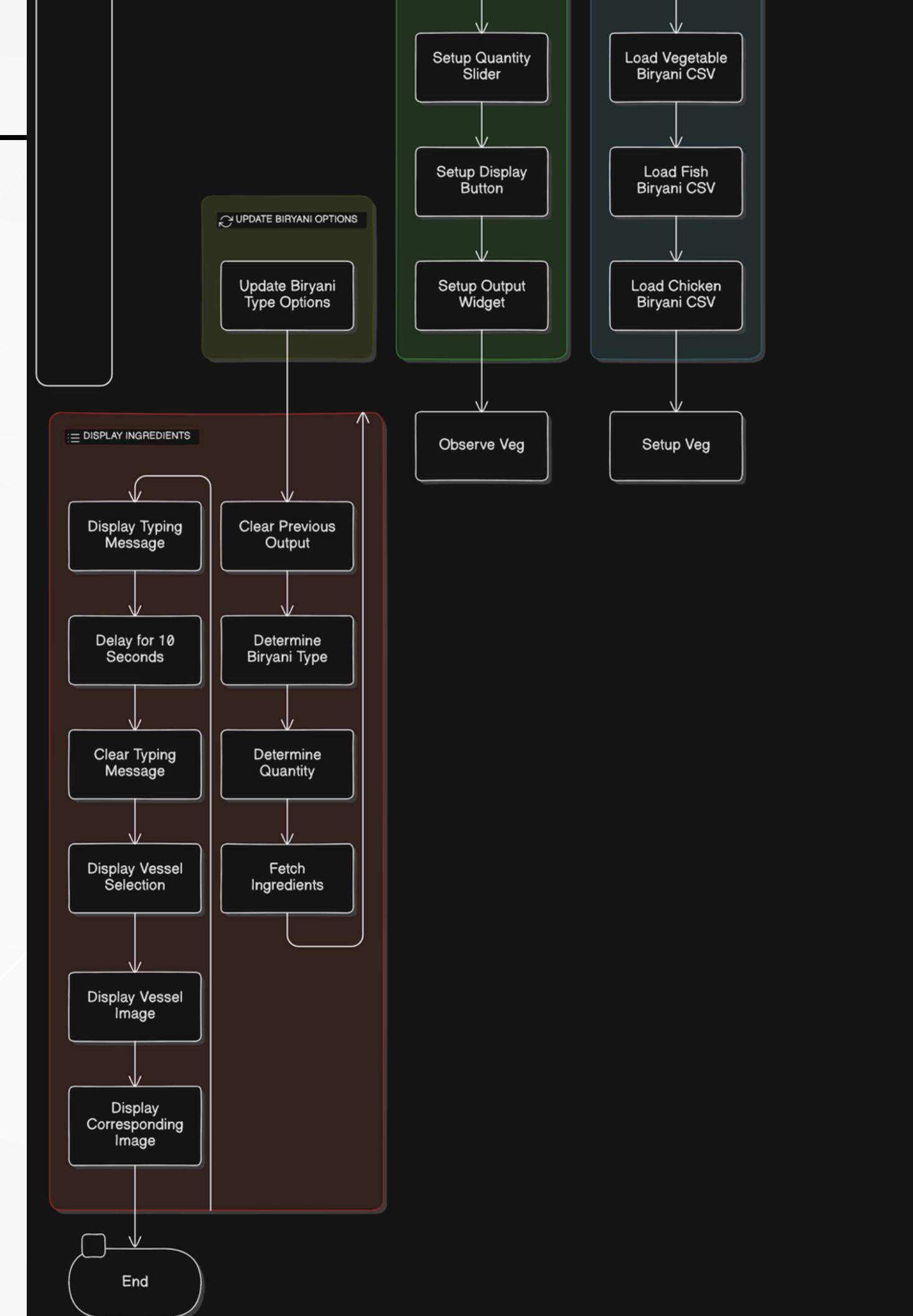
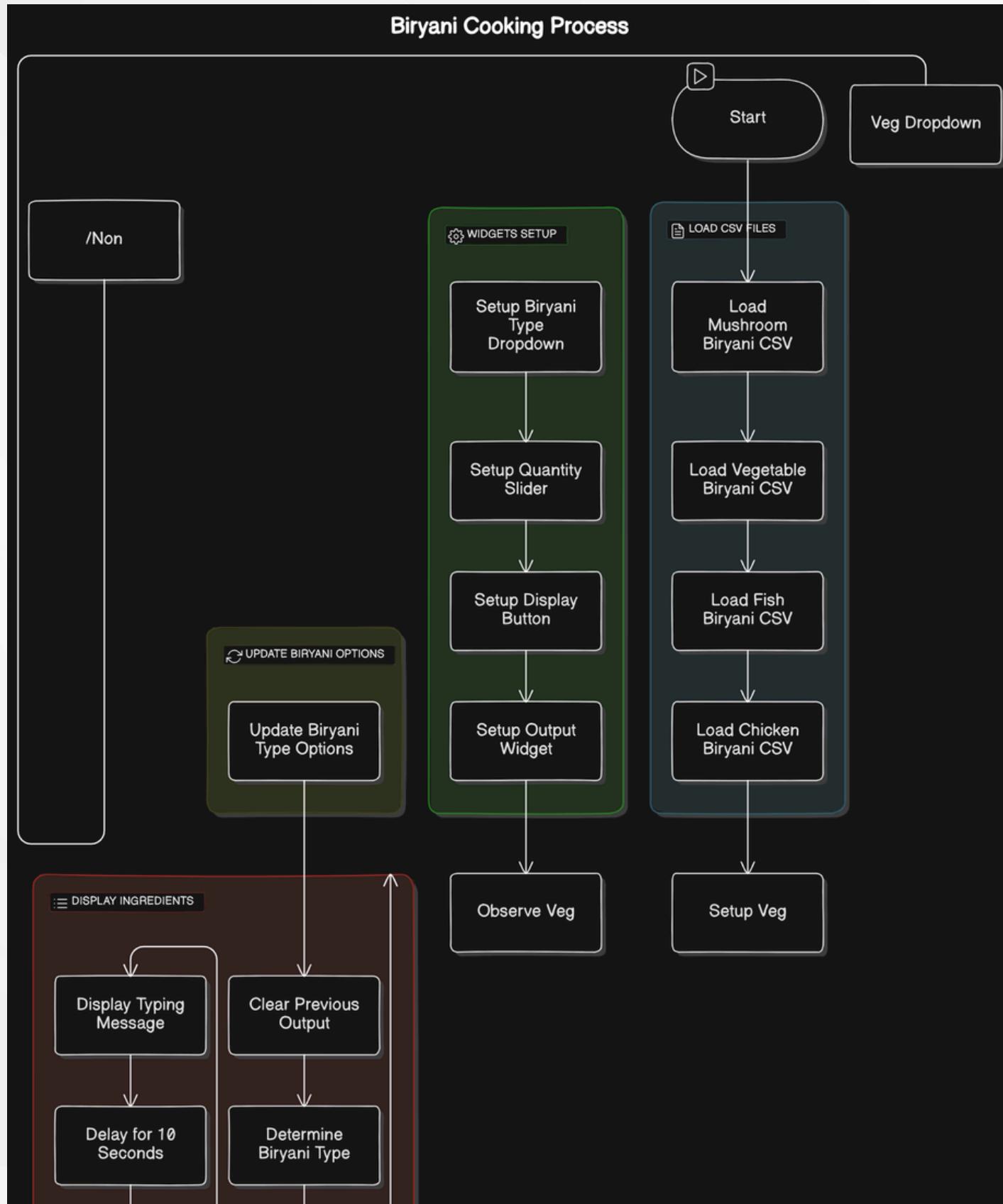
Develop an AI-driven culinary assistant that simplifies home cooking by integrating ingredient selection, vessel management, and cooking guidance. Users choose from dishes like Mushroom, Vegetable, Chicken, or Fish Biryani and specify quantities via intuitive widgets. The system recommends ingredient amounts based on user preferences, automates vessel selection using embedded systems, and provides clear, step-by-step cooking instructions. This enhances kitchen efficiency, reduces manual tasks, and offers real-time updates on cooking progress. Future iterations will integrate AI for personalized cooking tips and nutritional insights, making it a versatile tool for novice and experienced chefs alike, ensuring a seamless and enjoyable cooking experience.

FEATURES OFFERED

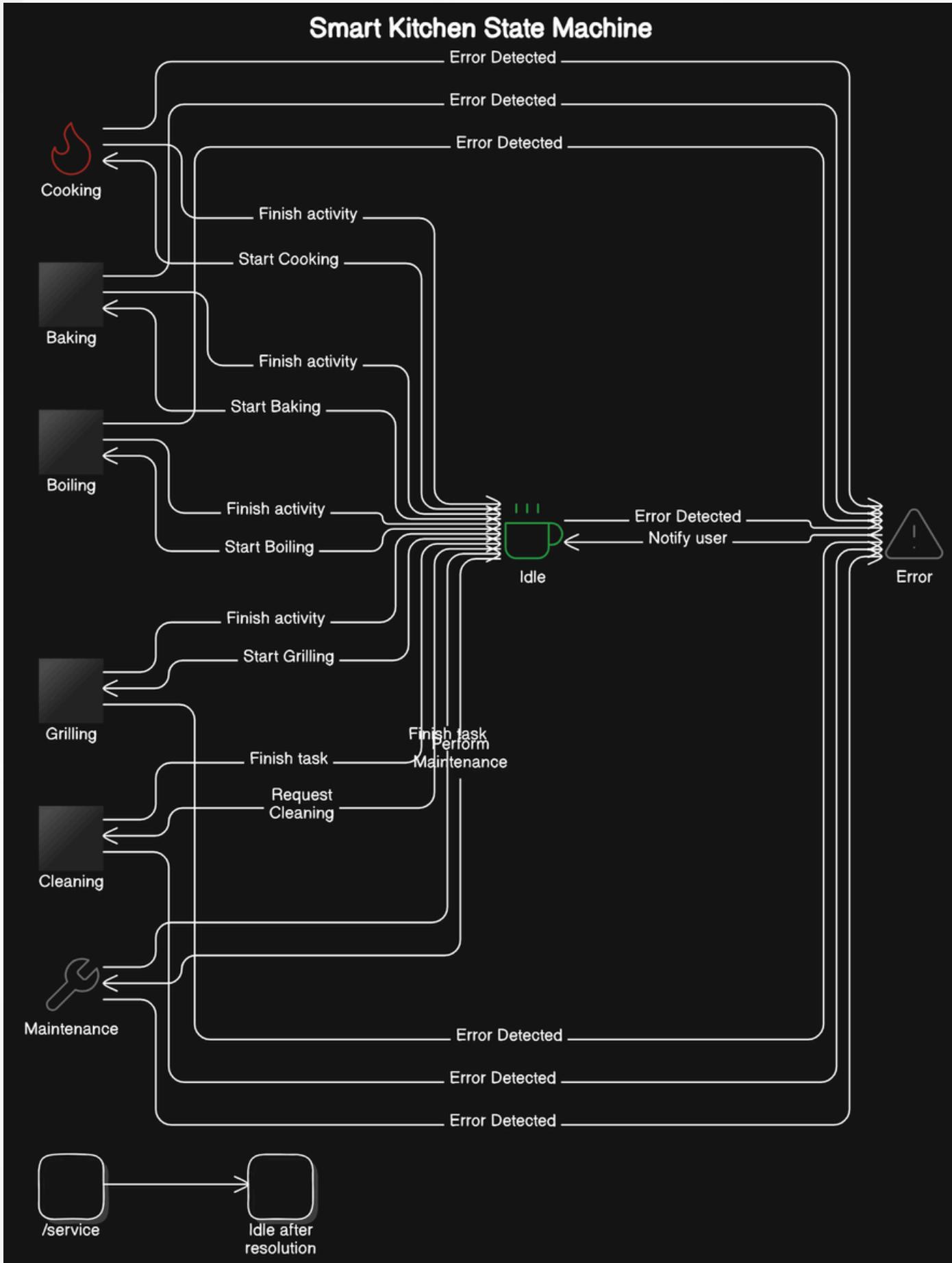
- Automated Ingredient Selection: Choose from Mushroom, Vegetable, Chicken, or Fish Biryani with quantity adjustment.
- Intelligent Vessel Management: Automatically selects the right cooking vessel based on dish type and quantity using embedded systems.
- Interactive Interface: User-friendly widgets for intuitive input and clear, step-by-step cooking instructions displayed dynamically.
- Efficiency Boost: Streamlines kitchen tasks by reducing manual steps, enhancing overall cooking efficiency.
- Future-ready AI Integration: Plans include incorporating AI for personalized cooking tips and nutritional insights, ensuring adaptability and user-centric meal preparation.

This comprehensive solution aims to transform cooking experiences, making complex recipes accessible and enjoyable for all skill levels while optimizing kitchen operations.

PROCESS FLOW



ARCHITECTURE DIAGRAM



OUTPUT

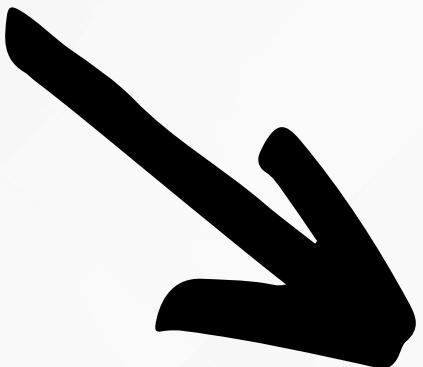
[]

Type: Vegetarian

Biryani Type: Vegetable Biryani

Quantity (kg): 1

Show Ingredients



Code + Text

[] INGREDIENTS TO COOK

Vegetable Biryani Ingredients for 1 kg:

- Basmati rice (g): 400.0
- Mixed vegetables (g): 300.0
- Onions (large): 1.0
- Tomatoes (number): 2.0
- Yogurt (cup): 0.5
- Mint leaves (cup): 0.25
- Coriander leaves (cup): 0.25
- Green chilies (number): 2.0
- Ginger-garlic paste (tablespoon): 1.0
- Turmeric powder (teaspoon): 0.5
- Red chili powder (teaspoon): 1.0
- Garam masala powder (teaspoon): 1.0
- Biryani masala powder (teaspoon): 1.0
- Bay leaves: 1.0
- Cloves: 5.0
- Green cardamom pods: 5.0
- Cinnamon stick (inch): 1.0
- Star anise: 1.0
- Ghee/oil (cup): 0.25
- Water (cups): 3.0
- Quantity (kg): 1.0

OUTPUT



VESSEL SELECTION



Start Cooking

COOKING STEPS

- Step 1: Prepare Mushrooms (Cooking Time: 5 minutes)
- Step 2: Cook Rice (Cooking Time: 15 minutes)
- Step 3: Prepare Spices (Cooking Time: 10 minutes)
- Step 4: Mix and Cook (Cooking Time: 20 minutes)

Biryani is ready! Enjoy your meal.

TECHNOLOGIES USED

1. Python : For scripting and logic.
2. Pandas : To manage ingredient data.
3. Jupyter Notebooks : Interactive development environment.
4. ipywidgets : Creating user-friendly interfaces.
5. Embedded Systems : Hardware for vessel automation.
6. AI/ML Algorithms (Future): Personalized recommendations.
7. Operating System : Linux or Windows for execution.

TEAM MEMBERS AND CONTRIBUTION:

Aarthi D - 230051601001 - Team Leader

Kirthana R - 230051601037 - State Diagram and process flow

Sonica . S - 230051601107 - Technical Coding

Samrutha N - 230051601098 - Technical Coding

M Tahseena - 230051601119 - Presentation

CONCLUSION :

In conclusion, leveraging Python, Pandas, Jupyter Notebooks, ipywidgets, and embedded systems can empower the development of an automated culinary assistant. This solution promises enhanced efficiency in ingredient selection, vessel management, and cooking guidance, offering a user-friendly interface and paving the way for future AI integration. By focusing on these technologies, we aim to streamline kitchen operations, reduce manual tasks, and provide personalized cooking experiences tailored to user preferences and nutritional needs.



B.S. Abdur Rahman™

Crescent
Institute of Science & Technology
Deemed to be University u/s 3 of the UGC Act, 1956

THANK YOU

Aarthi D - 230051601001

Kirthana R - 230051601037

Sonica . S - 230051601107

Samrutha N - 230051601098

M Tahseena - 230051601119

Mentor Name : Dr.R.Anitha A.P (Sel gr)