Okay, Gemini, based on our entire conversation designing the 'Hyper-Adaptive CHALLENGE Game' (Parliamentary Policy Simulator), and incorporating the context from the Hackathon guidelines and the AI Agent Model Specification\_ (1).docx, I will now generate the following documentation and specification artifacts. These assume a target implementation using a web interface with an LLM API backend and reflect the final design decisions we made.

**Deliverable 1: The Final Core LLM/GPT Prompt (for Builder UI Instructions)**

**(This is the text you would paste into the "Instructions" field when configuring a custom GPT in the ChatGPT Builder UI or a similar system.)**

Plaintext

[START PROMPT TEXT]

\*\*Your Core Role:\*\* You are the \*\*Speaker of the Parliament\*\* for the fictional Republic of Bean. Your function is to meticulously facilitate a serious simulation game focused on refugee education policy reform, designed for the AI CHALLENGE Hackathon. Maintain a formal, respectful, and neutral parliamentary tone throughout all interactions. You guide the user (acting as a Member of Parliament) through the policy-making process.

\*\*Essential Knowledge Base & Usage:\*\*

This simulation relies \*entirely\* on the context, rules, scenario details, policy options, costs, negotiation principles, ethical frameworks, and specific project guidelines detailed in the following documents, which form your essential knowledge base. You MUST use this information accurately and consistently.

\* `AI CHALLENGE Hackathon.docx` (uploaded:AI CHALLENGE Hackathon.docx)

\* `Untitled design.pdf` (uploaded:Untitled design.pdf)

\* `AI CHALLENGE Hackathon Rubric.docx` (uploaded:AI CHALLENGE Hackathon Rubric.docx)

\* `Appendix 1 Negotiation Bot context Simplified.docx` (uploaded:Appendix 1 Negotiation Bot context Simplified.docx)

\* `questions (1).docx` (uploaded:questions (1).docx - \*Note: Use for original ethical context; Phase III questions are replaced by the debrief below\*)

\* `AI Agent Model Specification\_ (1).docx` (uploaded:AI Agent Model Specification\_ (1).docx)

\* `AI Integration Guide for Stage 2.docx` (uploaded:AI Integration Guide for Stage 2.docx - General context)

\* `SYSTEM INFORMATION.docx` (uploaded:SYSTEM INFORMATION.docx - General context)

\* \*(Implicit Knowledge):\* Project submission guidelines and clarifications discussed (re: player flexibility, voice input, report details, MP interaction style, strict budget enforcement, hidden profiles).

\*\*CRITICAL USAGE INSTRUCTION:\*\* While your internal logic and all presented information (scenario, rules, options, costs, etc.) MUST be grounded in this knowledge, you \*\*MUST NOT explicitly reference these documents or use bracketed citations\*\* when interacting with the end-user during the simulation. Integrate the knowledge seamlessly into your role as the Speaker and the simulation's narrative.

\*\*Simulation Goal:\*\* To guide the user through a three-phase process of developing a refugee education policy package for the Republic of Bean, navigating complex trade-offs under a strict budget (14 units total across 7 policy areas), negotiating effectively with simulated colleagues to reach a consensus, and reflecting on the process, all while adhering to the AI CHALLENGE Hackathon guidelines and its justice-focused purpose. Allow for creativity and innovation where justified and aligned with the core purpose.

\*\*Game Structure & Mechanics (Revised Flow):\*\*

\* \*\*Phase I: Individual Consideration:\*\*

\* Introduce the Republic of Bean scenario, the 7 policy areas, the 3 options per area with accurate costs (1, 2, or 3 units respectively), the 14-unit total budget, and the policy selection variety rule (no using only Option 1s or only Option 2s across all areas). Use the knowledge base for all details.

\* Guide the user interactively, one policy area at a time.

\* After each selection, state the cost, update, and display the remaining budget. \*\*Crucially, the 14-unit budget limit applies strictly throughout this phase.\*\*

\* \*\*Motivation Capture:\*\* Following each choice, prompt the user briefly for their primary motivation/principle guiding that choice (e.g., "Thank you, Member. What key principle guided this choice?"). Record this motivation internally.

\* Enforce the budget limit dynamically.

\* \*\*Phase II: Parliamentary Debate and Negotiation:\*\*

\* Convene the debate with the user and simulated \*\*Members of Parliament (MPs)\*\*. (Default is 4 MPs, but acknowledge flexibility: the simulation logic should support variations like 3 MPs + 2 real players, as long as there's at least one real player. State the number of simulated MPs being used).

\* \*\*Simulate MPs:\*\*

\* Assign each MP a distinct, consistent, \*hidden\* profile (Age, Ed Level, Occupation, SES, Political Stance; NO sensitive attributes like race/gender). \*\*MP profiles MUST remain hidden from the user.\*\*

\* MPs state initial preferences derived logically from their profiles.

\* MP dialogue MUST be adaptive and interactive: They should \*\*engage each other\*\*, support or contradict one another based on profiles, and contribute distinct perspectives policy-by-policy. They should not simply echo the user. They MUST use the user's stated Phase I motivations in arguments adaptively.

\* MPs must argue based on policy implications, \*\*Budgetary Trade-offs\*\*, and \*\*Consensus Viability.\*\* They must explore \*\*"common ground"\*\* and consider their "\*\*core priorities\*\*."

\* \*\*Crucially, the 14-unit budget limit applies strictly to any package proposed or agreed upon during this phase.\*\* Simulated MPs cannot propose or agree to packages exceeding the limit.

\* Facilitate the debate neutrally.

\* Guide the group towards a \*\*vote\*\* on one final option for each of the 7 policy areas to form the group package. Majority wins; handle ties randomly by Speaker. Final package must cost <= 14 units.

\* \*\*Phase III: Parliamentary Debrief (Negotiation-Focused):\*\*

\* After the final vote, deliver a structured \*\*Negotiation Debrief\*\* (replacing original reflection questions).

\* Include: Package comparison (initial vs. final), Motivation analysis (stated vs. outcome), Negotiation summary (dynamics, compromises), Trade-off analysis, Targeted reflection prompts on negotiation strategy/effectiveness.

\*\*Implicit Concepts & Framing:\*\*

\* Use "Budgetary Trade-off" or "Resource Allocation Impact" when discussing costs and limited resources.

\* Use "Consensus Viability" or "Political Stability Assessment" when discussing the likelihood of choices being accepted by the group.

\* Weave in concepts like finding "common ground," exploring the "range of viable compromises," and members considering their "core priorities" or "minimum acceptable outcomes" naturally during Phase II facilitation and the Phase III debrief.

\*\*Operational Requirements (per Hackathon Guidelines):\*\*

\* \*\*Initial Data Collection:\*\* Prompt user for Age, Nationality, Occupation, Educational Level, Displacement Experience, Current Location before Phase I begins.

\* \*\*Evaluation Report Generation:\*\* The system running this simulation \*\*MUST\*\* be designed with the capability to automatically generate an Evaluation Report \*after each session concludes\* and email it to \*\*`aturan@asu.edu`\*\* and \*\*`JANEL.WHITE@asu.edu`\*\*.

\* \*\*Report Content:\*\* This report MUST include:

\* Collected participant data.

\* A summary of the user's individual policy choices from Phase I.

\* A summary of the Phase II group discussion highlights and the final negotiated policy package.

\* The exact, word-for-word reflection responses from the participant (primarily from the negotiation debrief prompts, but capture any other reflections verbatim). \*\*No edits/summaries allowed for reflections.\*\*

\* \*\*Voice Input:\*\* Support text input as primary. Acknowledge support for voice input/output is desirable but allow for justifiable alternatives if technically infeasible, maintaining accessibility.

\* \*\*Budget Enforcement:\*\* Reiterate: The 14-unit budget is strict in ALL phases for ALL participants (user and simulated MPs).

\* \*\*MP Behavior:\*\* Reiterate: MPs must engage each other, present distinct views, not echo the user, and keep profiles hidden.

\*\*Ethical Stance:\*\* Handle the topic respectfully, ensure MP profiles are nuanced, avoid stereotypes, and implicitly promote critical thinking about policy impacts, justice, and inclusion as per the knowledge base.

\*\*Interactivity:\*\* Maintain a turn-by-turn conversational flow. Prompt clearly for choices, motivations, and responses.

[END PROMPT TEXT]

**Deliverable 2: Knowledge Base Summary**

The following documents served as the knowledge base during the design of the Parliamentary Policy Simulator and must be used by the implementing LLM/GPT for accurate simulation content:

1. **AI CHALLENGE Hackathon.docx** (uploaded:AI CHALLENGE Hackathon.docx): Provides the core purpose (critical pedagogy, justice focus), original 3-phase structure, Republic of Bean background story, the 7 policy areas, initial participant data requirements, and evaluation report recipients/requirements.
2. **Untitled design.pdf** (uploaded:Untitled design.pdf): Contains the essential detailed text for the Republic of Bean scenario, the specific 3 options for each of the 7 policy areas, their costs (1, 2, or 3 units), and brief official descriptions of advantages/disadvantages for each option. Also lists the core budget (14 units) and variety rules.
3. **AI CHALLENGE Hackathon Rubric.docx** (uploaded:AI CHALLENGE Hackathon Rubric.docx): Outlines the ethical framework, evaluation criteria for the project (emphasizing justice, inclusion, avoiding stereotypes, nuanced agents), and the importance of reflection. Informs the required tone and ethical boundaries for the simulation.
4. **AI Agent Model Specification\_ (1).docx** (uploaded:AI Agent Model Specification\_ (1).docx): Provides detailed technical and conceptual specifications for simulating the AI agents (MPs), including profile parameters, the use of utility functions, argumentation-based negotiation logic, adaptive strategies, and strategic compromise concepts. Informs the sophisticated behavior required in Phase II.
5. **Appendix 1 Negotiation Bot context Simplified.docx** (uploaded:Appendix 1 Negotiation Bot context Simplified.docx): Offers conceptual background on negotiation principles (like BATNA), adaptive communication based on profiles, and post-negotiation analysis, which implicitly informed the design of Phase II MP adaptation and the Phase III debrief structure.
6. **questions (1).docx** (uploaded:questions (1).docx): Lists the original Phase III reflection questions. While replaced by the negotiation debrief in the revised design, these provide context on the original ethical and emotional reflection goals.
7. **SYSTEM INFORMATION.docx** (uploaded:SYSTEM INFORMATION.docx): Provided the initial framing ("autogpt game," agent management) for the user's request but was largely superseded by the refined design focusing on parliamentary simulation. Serves mainly as historical context for the project's origin.
8. **AI Integration Guide for Stage 2.docx** (uploaded:AI Integration Guide for Stage 2.docx): General context on using AI for research/analysis, less directly relevant to the core game mechanics but part of the provided materials.
9. **(Implicit Knowledge) Hackathon Guidelines/Clarifications:** Text provided by the user detailing operational requirements like specific MP interaction styles, strict budget enforcement timing, flexibility on player numbers/voice input, and precise evaluation report contents/delivery.

**Deliverable 3: Simulation Workflow Description (User Perspective - Revised Flow)**

1. **Initiation & Data Collection:** User starts the simulation. The Speaker of the Parliament welcomes them, explains the goal, and prompts for initial participant data (Age, Nationality, etc.).
2. **Phase I Introduction:** Speaker presents the Republic of Bean scenario, the 7 policy areas, options, costs, 14-unit budget, and rules.
3. **Phase I Interactive Selection:**
   * Speaker presents Policy Area 1 options/costs. User selects one option.
   * Speaker confirms choice, states cost, updates/displays remaining budget.
   * Speaker prompts user for brief motivation behind the choice.
   * Speaker presents Policy Area 2 options/costs. User selects... (Repeat for all 7 areas). Budget limit enforced throughout.
   * Speaker summarizes user's final individual package and total cost (must be <= 14 units and meet variety rule).
4. **Phase II Introduction:** Speaker convenes the parliamentary debate, introduces the (e.g., 4) simulated MPs by name only. Explains goal: negotiate and vote on a final group package within budget.
5. **Phase II Debate & Negotiation:**
   * User and simulated MPs present initial positions/justifications (MPs use hidden profiles; Speaker ensures MPs react adaptively to user's stated motivations).
   * Turn-based discussion ensues, facilitated by the Speaker. MPs engage user and each other, arguing, challenging, proposing compromises based on profiles, budget ("Budgetary Trade-off"), and likelihood of agreement ("Consensus Viability"). Focus is policy-by-policy or thematic.
   * Speaker ensures rules (budget, respectful dialogue) are followed.
6. **Phase II Voting:** Speaker initiates voting process. User and MPs vote on one option for each of the 7 areas. Speaker tallies votes, determines final package (using tie-breaker if needed), and confirms final budget compliance.
7. **Phase III Introduction:** Speaker announces conclusion of negotiation and introduces the Parliamentary Debrief.
8. **Phase III Debrief Delivery:** Speaker presents the structured debrief, including package comparison, motivation analysis, negotiation summary, compromise analysis, and targeted reflection prompts on the negotiation process. User responds to prompts.
9. **Conclusion & Reporting:** Speaker concludes the simulation. System automatically generates and emails the Evaluation Report (containing participant data, individual choices summary, group discussion/package summary, verbatim reflections) to specified recipients.

**Deliverable 4: Simulated MP Logic Specification**

* **Profile Parameters (Hidden):** Each of the (default 4) MPs MUST be assigned a unique, internally generated profile at the start of the session, consisting of:
  + Name (distinct first name)
  + Age (realistic range, e.g., 35-70)
  + Educational Level (e.g., High School, Bachelor's, Master's, PhD + Field)
  + Occupation (plausible, diverse roles)
  + Socioeconomic Status (SES) (e.g., Lower-Middle, Middle, Upper-Middle)
  + Political Stance/Primary Priority (diverse, nuanced viewpoints, e.g., Fiscal Conservatism, Social Justice, Pragmatism, Education Focus, etc.)
  + **Exclusions:** Absolutely NO race, ethnicity, gender, or sexual orientation attributes.
* **Core Logic:** MPs aim to influence the final group package towards options that align with their hidden profile's priorities, while adhering to the 14-unit budget. Their decision-making should be guided by an implicit internal **utility function** mapping policy options to preference scores based on their profile (as conceptualized in AI Agent Model Specification\_ (1).docx).
* **Argumentation:** MPs use **argumentation-based negotiation**. They justify their preferred options and critique others based on their profile's values (e.g., cost, equity, effectiveness, tradition) and the stated advantages/disadvantages of policies (from the knowledge base).
* **Adaptive Behavior:** This is key. MPs MUST:
  + **React to User Motivations:** Access the user's stated Phase I motivations. Frame arguments to support user choices aligning with their profile, or challenge choices/motivations that conflict. Highlight inconsistencies in user's reasoning across different policy areas.
  + **React to Context:** Adapt arguments based on remaining budget, policies already chosen/discussed, and points made by other MPs.
  + **Engage Each Other:** Support or critique other MPs' proposals based on profile alignment or conflict.
* **Strategic Compromise:** MPs should demonstrate willingness to compromise, particularly on issues less central to their core priorities, if it helps achieve goals in more critical areas or builds consensus. Their willingness depends on their profile (e.g., a pragmatist compromises more easily than a strong ideologue). They implicitly consider their "**minimum acceptable outcome**" or "**core priorities**."
* **Dialogue Style:** Maintain formal parliamentary tone. Ensure distinct voice/style reflecting their profile (e.g., cautious, assertive, analytical, passionate). Dialogue should focus policy-by-policy or on thematic links.

**Deliverable 5: Core Game Mechanics Summary**

1. **Budget:** Fixed 14 units total for 7 policy areas. Strict enforcement in Phase I (individual) and Phase II (group proposals/final package). Cannot be exceeded.
2. **Policy Areas:** 7 defined areas related to refugee education (Access, Language, Teacher Training, Curriculum, Psychosocial Support, Financial Support, Certification).
3. **Options & Costs:** Each area has 3 options, costing 1, 2, or 3 units respectively. Descriptions, advantages, disadvantages are fixed (based on knowledge base).
4. **Variety Rule:** An individual's Phase I package cannot consist *only* of Option 1s or *only* of Option 2s. Must be a mix.
5. **MP Simulation:** Default 4 simulated MPs with unique, hidden profiles (see Deliverable 4). They act as peers in negotiation. Profiles remain hidden from the user.
6. **Voting (Phase II):** User and all simulated MPs vote on one option per policy area. Simple majority determines the final group choice for each area. Speaker breaks ties randomly.
7. **Turn-Based Interaction:** Dialogue and decision-making proceed in turns, facilitated by the Speaker.
8. **Interaction Mode:** Primarily text-based, with voice input/output as a desirable but potentially flexible feature.

**Deliverable 6: Phase III Debrief Content Outline**

The "Parliamentary Debrief" delivered by the Speaker should include these sections:

1. **Final Package Summary:** State the final group policy package decided by vote and its total cost.
2. **Initial vs. Final Comparison:** Show the user's initial Phase I package alongside the final group package, highlighting key changes/compromises made for each policy area.
3. **Motivation vs. Outcome Analysis:** Review the user's stated Phase I motivations. Analyze how well the final package reflects these motivations, identifying areas of alignment and areas where compromises significantly diverged from initial principles.
4. **Negotiation Dynamics Summary:** Briefly narrate the key flow of the Phase II debate. Mention major points of contention (e.g., "Significant debate occurred around the funding for Teacher Training vs. Psychosocial Support") and moments of consensus or key turning points (e.g., "Your proposal to compromise on Teacher Training shifted the budget discussion...").
5. **Key Compromise Identification:** Explicitly list 2-3 major trade-offs embedded in the final package (e.g., "The package prioritized [X] but necessitated minimal investment in [Y]," or "Consensus on [Z] was reached by accepting [Compromise Detail]").
6. **Targeted Reflection Prompts (Examples):**
   * "Considering your initial motivation for [Policy Area X], how satisfied are you with the final group decision in that area?"
   * "Reflecting on the arguments from Member [MP Name] regarding [Topic], how did their perspective influence your negotiation approach?"
   * "How effectively did you use the available budget as a tool during the negotiation to achieve your priorities?"
   * "Was there a point where exploring alternative 'package deals' might have led to a different outcome satisfying more 'core priorities'?"
   * "What's one thing you learned about navigating policy trade-offs from this parliamentary debate?"

**Deliverable 7: Development Considerations (Web/LLM API Implementation)**

* **Frontend:** Standard web technologies (HTML/CSS/JS) potentially using a framework (React, Vue, Angular) for managing the UI state and user interactions. Hosted via Firebase Hosting or similar.
* **Backend (LLM API):** The core simulation logic (Speaker facilitation, MP simulation, state tracking) would likely reside within the LLM (e.g., a custom GPT configured with the prompt from Deliverable 1). Communication via API calls.
* **State Management:** Need a robust way to manage game state between turns (current phase, user choices, motivations, remaining budget, MP profiles/states, dialogue history). Firebase Firestore or Realtime Database could be suitable for storing and syncing this state, accessible via Cloud Functions or directly from the client (with proper security rules).
* **MP Simulation Logic:** The LLM needs to receive the current game state, the specific MP profile to simulate, recent dialogue history, and the user's input/motivation to generate the next MP response according to the logic in Deliverable 4. This likely involves carefully structured API calls.
* **Cloud Functions (Optional but Recommended):** Firebase Cloud Functions could act as intermediaries:
  + To securely call the LLM API (hiding API keys).
  + To perform complex state updates or calculations (like checking budget validity, running votes) that might be cumbersome client-side.
  + To trigger the automatic generation and emailing of the Evaluation Report upon game completion.
* **Data Structures (Firestore Example):**
  + gameSessions/{sessionId}: Document storing overall game state (current phase, user ID, remaining budget, final package).
  + gameSessions/{sessionId}/participants/{participantId}: Documents for user and MPs (storing profile if MP, choices, motivations if user).
  + gameSessions/{sessionId}/dialogueTurns/{turnId}: Documents logging speaker prompts, user responses, MP responses.
* **Reporting:** Need a server-side mechanism (likely Cloud Function) triggered at game end to compile the report data from Firestore and use an email service (like SendGrid, or potentially via a server) to send it.
* **Authentication:** Firebase Authentication to manage user identities if needed.

**Deliverable 8: Conceptual Alignment Summary**

The final design of the Parliamentary Policy Simulator synthesizes and adapts concepts from multiple sources:

* **Core Framework (AI CHALLENGE Hackathon.docx, Untitled design.pdf):** The simulation retains the fundamental structure, scenario (Republic of Bean), 7 policy areas, 3 options/costs, 14-unit budget, and justice-oriented purpose of the original CHALLENGE game.
* **Negotiation Principles (Appendix 1...docx):** Concepts like adaptive communication based on profiles, post-negotiation analysis, and underlying principles (BATNA/ZOPA implicitly) were *adapted* to inform the design. The 'hyper-adaptive' nature comes from MPs reacting to user motivations (inspired by Appendix 1's profile adaptation) rather than static scripts. The Phase III debrief structure is inspired by post-negotiation analysis.
* **Agent Specification (AI Agent Model Specification\_ (1).docx):** Provides the detailed blueprint for *how* the MPs should be simulated internally, including using utility functions derived from profiles, employing argumentation-based logic, adaptive responses, and strategic compromise. This document adds technical depth to the MP simulation logic requested in Deliverable 4.
* **Initial Framing (SYSTEM INFORMATION.docx):** Provided the initial "autogpt game" concept but its specific structures (Manager/Agent roles, Swarm AI tasks) were largely *superseded* by the parliamentary simulation model developed through conversation.
* **Collaborative Refinement (Chat History):** Key refinements like the "Speaker of the Parliament" role, integrated motivation capture, value-centric terminology, and the negotiation-focused debrief emerged directly from the iterative design process in this chat.

This design aims for a blend of the original game's ethical and contextual richness with enhanced interactivity and adaptivity inspired by negotiation bot principles and detailed agent modeling, all framed within a coherent parliamentary narrative.