**Proposal for Agentic Model-Based Solution**

**1. Overview**

The **Agentic Model** is designed as a highly scalable, efficient, and extensible framework that can serve as the backbone for modern web applications, specifically for industries like **eSports** and **Education**. By using **ASP.NET Core**, you benefit from a fast, secure, and versatile platform that enables seamless integration with databases, third-party APIs, and real-time updates. **Agentic** is fully customizable, allowing businesses to extend the system based on specific needs, with a key focus on flexibility, scalability, and high performance.

Building a custom **Agentic model** with **.NET Core** ensures that you can control all aspects of your solution, making it adaptable to future business growth without the risks associated with relying on third-party vendors. The **.NET Core** ecosystem provides strong security, extensive documentation, and broad community support, making it an ideal platform for scalable enterprise solutions.

**2. Use Cases for Agentic Model in General**

* **Web Applications**: Build dynamic, high-performance web apps that need to handle large amounts of traffic and data.
* **Real-Time Communication**: Integrate **real-time chat** or **live streaming** capabilities with features like notifications and user interactions.
* **Data Analytics**: Use data ingestion from APIs, databases, or other sources to analyze and provide insights into user behavior, game statistics, or business performance.
* **Background Jobs**: Schedule and execute recurring tasks, such as fetching data from external sources (e.g., weather, stock data), sending emails, or processing payments.
* **User Authentication**: Support user registration, login, and authentication, including multi-factor authentication, OAuth, and role-based access control.
* **Integrations**: Integrate with other platforms and services through APIs for payments, user authentication, analytics, and more.

**3. Specific Use Cases for Agentic Model in the eSports Industry**

* **Player and Team Management**: Organize and manage player profiles, team compositions, rankings, and game statistics. Provide real-time updates for matches and tournaments.
* **Match Scheduling & Results Tracking**: Schedule eSports events, track results, and update player stats in real time during matches. This is essential for tournament organization and results display.
* **Fan Engagement & Social Integration**: Allow fans to interact with players and teams, view match highlights, and follow social media streams directly through the platform.
* **Real-Time Leaderboards**: Display live rankings and leaderboards during tournaments and events, ensuring real-time data processing for accuracy.
* **Live Streaming Integration**: Integrate with live streaming platforms like Twitch or YouTube to display matches, highlight reels, and in-game events directly on the platform.
* **Prize Distribution & Sponsorships**: Automate prize distribution and sponsorship tracking by integrating with financial systems and data sources.
* **Content Management**: Allow tournament organizers and teams to publish news, updates, and promotional content. Enable fans and teams to create and upload content.

**4. Specific Use Case for Agentic Model in Education (Esposure Education)**

**Esposure Education** is an online educational platform focused on delivering customized eLearning experiences. By leveraging **Agentic** as a foundation, Esposure Education can achieve the following:

* **Student Enrollment & Management**: Seamlessly manage student profiles, track progress, and enroll in courses. Integrate with third-party learning management systems (LMS) and provide personalized course recommendations based on student preferences.
* **Course Delivery & Real-Time Interaction**: Enable real-time collaboration between instructors and students via live video lectures, chats, and screen sharing. This is especially useful for eSports and technology-related courses that require interactivity and hands-on practice.
* **Automated Grading & Feedback**: Implement automated grading systems for quizzes, assignments, and projects, allowing instructors to focus on student interaction and development. Provide instant feedback to students on their performance.
* **Content Management & Streaming**: Publish and manage course content such as videos, reading materials, and assignments. Integrate live streaming capabilities for online lectures and workshops.
* **Progress Tracking & Analytics**: Track students’ progress, completion rates, and overall performance. Provide detailed analytics and insights to instructors and students, allowing them to make data-driven decisions for improvements.
* **Payment & Certification**: Automate payment processing and certification generation for completed courses or milestones.

**5. Tech Stack**

* **Backend**:
  + **ASP.NET Core** – Highly performant and secure backend framework.
  + **Hangfire** – For background job processing (e.g., match data updates, recurring tasks).
  + **SQL Server / PostgreSQL** – Robust database systems for handling large amounts of structured data.
  + **Entity Framework Core** – ORM for data management and migrations.
  + **Swagger** – API documentation for easy integration and testing.
* **Frontend**:
  + **React / Angular** – For building dynamic user interfaces, especially for real-time updates and interactive content.
  + **SignalR** – Real-time communication library for live updates (e.g., match updates, leaderboard changes).
* **Cloud / Deployment**:
  + **Docker / Kubernetes** – For containerizing and managing microservices.
  + **Azure / AWS / Google Cloud** – Scalable cloud platforms for hosting and scaling the application.
* **External APIs**:
  + Integration with external APIs for data (e.g., live match data, team statistics, or payment services).
  + **Scraping**: Ability to scrape real-time data from external websites, especially for competitor data and events.

**6. Agentic Model Functionalities**

* **Job Scheduling**: Using **Hangfire** or similar frameworks to schedule and execute jobs like fetching data from APIs, scraping external websites, or sending notifications.
* **Background Data Processing**: Use background jobs to process incoming data, perform calculations (e.g., player rankings), and update the database asynchronously.
* **Real-Time Data Streaming**: Stream live data updates using **SignalR** for real-time match data, player stats, leaderboards, etc.
* **Scraping Capabilities**: The ability to scrape data from third-party websites for event details, match results, or live streams (where applicable and legally allowed).
* **Reporting & Analytics**: Use data collected over time to generate reports or insights (e.g., player performance, event statistics, or tournament insights).
* **API Integration**: Integrate with external platforms for payment processing, ticket sales, or API-driven content (e.g., Twitch for live streaming).

**7. Conclusion**

By building your own **Agentic** model on **ASP.NET Core**, you are investing in a future-proof, highly customizable, and secure solution that can evolve with your business. The flexibility provided by a custom-built solution ensures that your platform can grow with your needs, without being locked into a vendor’s constraints.

This approach is especially beneficial for industries like **eSports** and **Education**, where scalability, real-time data processing, and custom workflows are essential. Whether it's for managing eSports tournaments, enhancing fan engagement, or delivering personalized educational experiences, the **Agentic Model** allows for limitless customization and long-term sustainability.

Choosing **Agentic** ensures you're not dependent on third-party solutions that may have limitations, security concerns, or a future shutdown. By leveraging **.NET Core**, you tap into a robust and mature ecosystem that guarantees high performance, scalability, and security, allowing your business to thrive without compromise.

How to start

1. Install Visual Studio 2022
2. Clone repository <https://github.com/amtechnologyforbusiness/AgenticAI>
3. Run the application
4. Go on hangfire to see the agentic working <http://localhost:5005/hangfire>

More understanding on AGENTIC TERM

"Agentic software" isn't a standardized term in the tech industry, so it may refer to different types of systems depending on the context. Generally speaking, "Agentic" could refer to software that is capable of autonomous or intelligent actions, often driven by AI or machine learning models. These systems are commonly used in automation, personal assistants, robotics, or decision-making systems. Below are several categories of software that could fall under an "Agentic" umbrella:

**1. Intelligent Agents and AI-Powered Systems**

* **AI Chatbots**: Software that uses natural language processing (NLP) and machine learning to simulate human-like conversations.
  + Example: **Dialogflow**, **Microsoft Bot Framework**, **Rasa**
* **AI Personal Assistants**: Virtual assistants that perform tasks like scheduling, reminders, searching, or data collection.
  + Example: **Google Assistant**, **Siri**, **Amazon Alexa**
* **Autonomous Agents**: Systems that can make decisions without human intervention, typically used in robotics, drones, or self-driving cars.
  + Example: **Autonomous Robots** (e.g., Boston Dynamics), **Tesla Autopilot**

**2. Automated Workflow & Task Management Software**

* **Robotic Process Automation (RPA)**: Software that automates rule-based tasks and processes, typically within business operations like finance, HR, and customer service.
  + Example: **UiPath**, **Automation Anywhere**, **Blue Prism**
* **Task Automation Tools**: Systems that automate daily tasks, workflows, or processes, often using pre-configured rules and AI algorithms.
  + Example: **Zapier**, **Integromat** (now Make)

**3. Decision Support and Predictive Analytics**

* **Predictive Analytics Platforms**: Software that predicts future trends, behavior, or performance based on data analysis and machine learning.
  + Example: **SAS Predictive Analytics**, **IBM Watson**, **DataRobot**
* **Decision Support Systems (DSS)**: AI or algorithm-based systems that help businesses make decisions by providing insights or recommendations.
  + Example: **Tableau**, **Qlik**, **Power BI** (combined with AI)

**4. Agent-Based Simulation Systems**

* **Agent-Based Modeling (ABM)**: These are systems used to simulate the interactions of agents within a network or environment to understand complex phenomena (e.g., markets, ecosystems, traffic flow).
  + Example: **AnyLogic**, **Repast**, **NetLogo**
* **Multi-Agent Systems (MAS)**: Software used to model systems with multiple interacting agents, often used in economics, social science, and distributed computing.
  + Example: **MASON**, **MADKIT**

**5. AI-Driven Scraping and Data Collection Tools**

* **Web Scraping Bots**: Software used to collect data from websites automatically, often using AI to enhance scraping capabilities and adapt to different structures.
  + Example: **Scrapy**, **BeautifulSoup (Python)**, **ParseHub**

**6. Virtual and Augmented Reality Agents**

* **Virtual Assistants for VR/AR**: AI-driven assistants that interact with users in virtual and augmented reality environments.
  + Example: **Spatial**, **High Fidelity**, **Unity with AI-powered NPCs**

**7. Intelligent E-commerce Agents**

* **Recommendation Systems**: AI-powered agents that make personalized product or content recommendations to users based on their behavior.
  + Example: **Amazon Personalize**, **Google Cloud AI Recommendations**
* **E-commerce Chatbots**: AI systems integrated into e-commerce platforms to assist customers, process orders, and answer queries.
  + Example: **Shopify Chatbot**, **Tidio**, **Zendesk AI**

**8. Esports Industry Specific Agentic Software**

* **eSports Tournament Management Software**: Platforms that automatically handle tournament organization, team registration, match scheduling, and real-time updates.
  + Example: **Battlefy**, **Toornament**, **Challonge**
* **Game Analytics and Insights**: AI-powered platforms that analyze player performance, team stats, and game trends, providing valuable insights for both players and teams.
  + Example: **Mobalytics**, **Op.gg**, **Riot Games Analytics**
* **AI Coaching Tools**: Software that uses AI to coach players, providing feedback based on performance and game analysis.
  + Example: **Mobalytics Coach**, **GamerSensei**

**9. Open-Source Agentic Software**

Some open-source software can be considered "agentic" if it involves intelligent decision-making or automation. These tools allow for modification and extension by developers to tailor them to specific use cases.

* **Rasa**: Open-source conversational AI platform for building chatbots and virtual assistants.
* **OpenAI Gym**: A toolkit for developing and comparing reinforcement learning algorithms.
* **TensorFlow Agents**: An open-source library for reinforcement learning and multi-agent systems built with TensorFlow.

**Benefits of Using Custom Agentic Software Over Open-Source Solutions:**

1. **Complete Control**: You have the freedom to design the software to meet your specific requirements, ensuring it fits your business model perfectly.
2. **Scalability**: You can scale and optimize the system according to your needs without the constraints of open-source solutions.
3. **Long-Term Viability**: Open-source projects can be abandoned or changed by the community, whereas a custom solution gives you long-term sustainability.
4. **Security**: With a custom solution, you have complete control over security protocols, reducing vulnerabilities common in open-source platforms.

In conclusion, agentic software, whether commercial or open-source, is becoming an essential part of many industries, including **eSports** and **Education**. By developing a custom Agentic model, organizations can create a more flexible, scalable, and secure platform that meets their specific needs, while also having full control over future improvements and customizations.