Languages: English | French | Spanish | Russian

Development Factory patent and its BASE implementation

Click on 1 to listen to AI-agent 1, then come back and click on 2.

We offer a platform and services to move your work to the conversational AI world.

Development Factory is a System with conversational approach to AI for development, manufacturing, and marketing products and services. Also, for personalized educational development as we try to test in AITU (Internet / AI Technology University).

The patent describes processing components and methods of their interaction.

Let us talk about development part, although the system also includes manufacturing and marketing components.

You know that performing any task often includes a development process with many steps, and sometimes many teams.

Business folks clarify business goals, architects provide tech plans, and technicians work on technical details.

In this process people converse to better understand each other.

Such process takes weeks, months and might take years.

The Development Factory system cuts this time to minutes.

The system will initiate a conversation working as a set of smart and knowledgeable partners, AI agents, which represent development layers. AI agents help to navigate between these layers and retrieve all necessary details from private corporate data, and from public Large Language Models (LLM).

The system includes conversation mechanisms and a set of graph processing units, AI agents. Each agent is a Conversational Semantic Decision Support (CSDS) system.

Now we talk about GPT by OpenAI, Gemini by Google, AI tools by Meta and by Elan Musk. These great companies compete in delivering best semantic

models, Large Language Models (LLM) capable of understanding natural language.

We do not compete in this field.

We use different LLMs just as tools to create enterprise products on the top of these tools. We developed a highly customizable platform, called BASE.

We offer our service to connect to enterprise data and customize the system to work on specific tasks in their specific business knowledge domain. In our platform we use together LLM with public data, private enterprise data, and conversational AI mechanisms.

Examples:

In the patent we provided the example of designing a flying car. Here is a need at least for 3 AI agents, semantic processing systems, which are connected to the data in 3 knowledge domains: building cars, designing planes, and FAA regulations.

Another example is in education: a personal tutor for each student, adapting to learning differences. Any trainer or a teacher knows first-hand that our current educational system focuses on average students leaving some behind and making some extremely bored. We wrote several articles on the subject, like Fixing Education, The Message from 2040, and more.

In the founded Internet / AI Technology University we use some AI components.

Another example is helping in a complex law case.

Imagine that a senior partner would ask an associate for a search in a specific direction. After a day or two the associate comes back with some suggestions. A senior partner would say that this is not a solution and send the associate for another search. Our development factory will be connected to proprietary set of legal data, which are not available for a public, but available to the law firm. Our AI agents will work with a senior partner as smart, knowledgeable, and extremely fast consultants.

Our niche is working with corporate clients, providing subscriptions or internal installations of our platform, the BASE, connecting to corporate data, which enterprise does not want to share with public.

We offer the service to add AI components to corporate business for specific most profitable tasks.

Back to the patent: you do not see many patents in this field. Our patent is one of the strongest.

How This Works: English | Spanish | Russian | French

Our patented technology increases efficiency of an enterprise in education, medical, project development, and more fields. The platform is implemented as Business Architecture Sandbox for Enterprise (BASE) with a rich set of services. The services are enhanced with AI components providing Conversational Semantic Decision Support (CSDS).

How this works

The system (BASE) serves as a partner in a conversational research, development, and decision-making processes.

1. A user starts a conversation with a paragraph or two describing user's area of interest, so called "knowledge domain".
   The system uses semantic technology to outline the main **concepts or topics** in user's input.
2. Then the BASE is looking for the most relevant branches in the existing semantic knowledge graph trying at least partially understand the user.
3. This understanding can be very limited, especially in the beginning of using the system in a new knowledge domain.
4. Following the found knowledge branches the system will ask for confirmation or more often approach a user with clarification questions.

It is expected that the semantic knowledge graph will not be ideal from the beginning and would require a human touch by a Subject Matter Expert (SME). The BASE offers a powerful Semantic Editor helping SME to clean and improve the graph.

At each successful loop of this conversation the system will select one or more branches of the knowledge graph coming closer to the knowledge branch that identify user's intent and providing a user with detailed information according to user's intent.

At each unsuccessful loop the system will ask for more data sources to enhance the knowledge repository.

The main steps of growing the knowledge tree are illustrated below.

The current implementation has all the mechanisms and services described above, although there is still work ahead on improving precision and quality towards specific targets provided by clients.

Why conversation?

Google offers links and a searcher choose the best slowly moving up the path.

When people talk, they shortcut this process by asking questions.

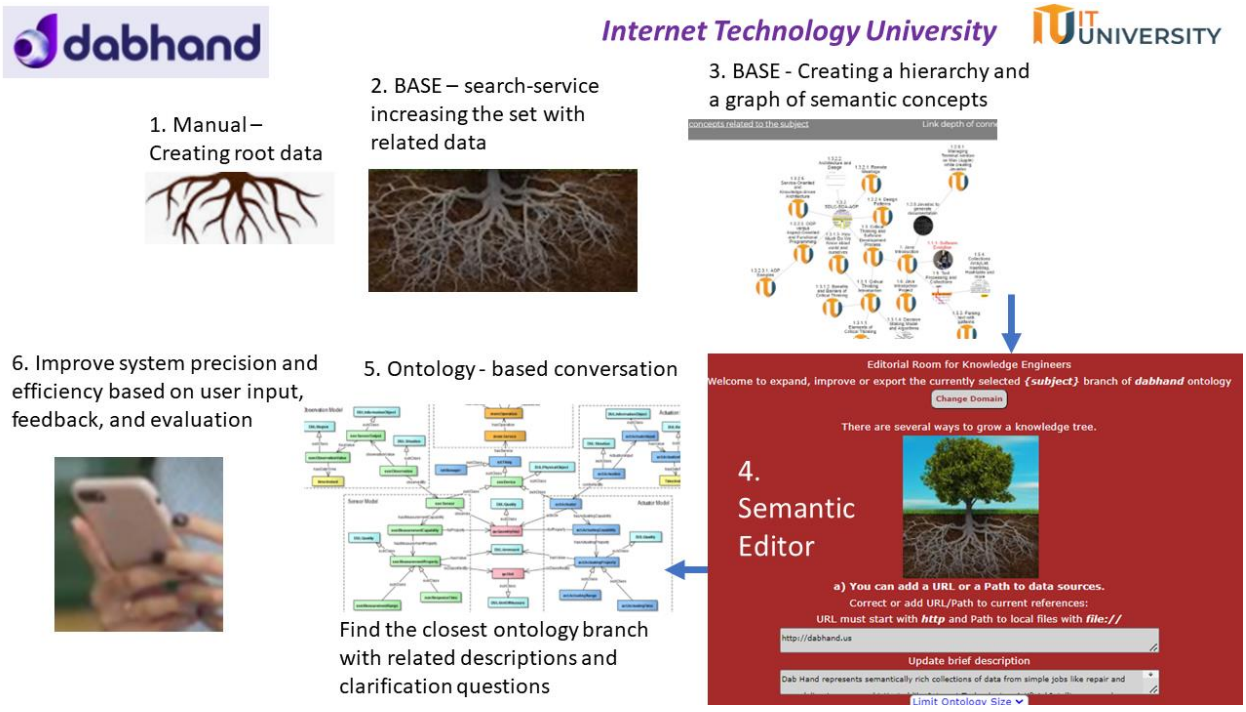
We establish such conversations with the Conversational Semantic Decision Support – see AskCSDS.com

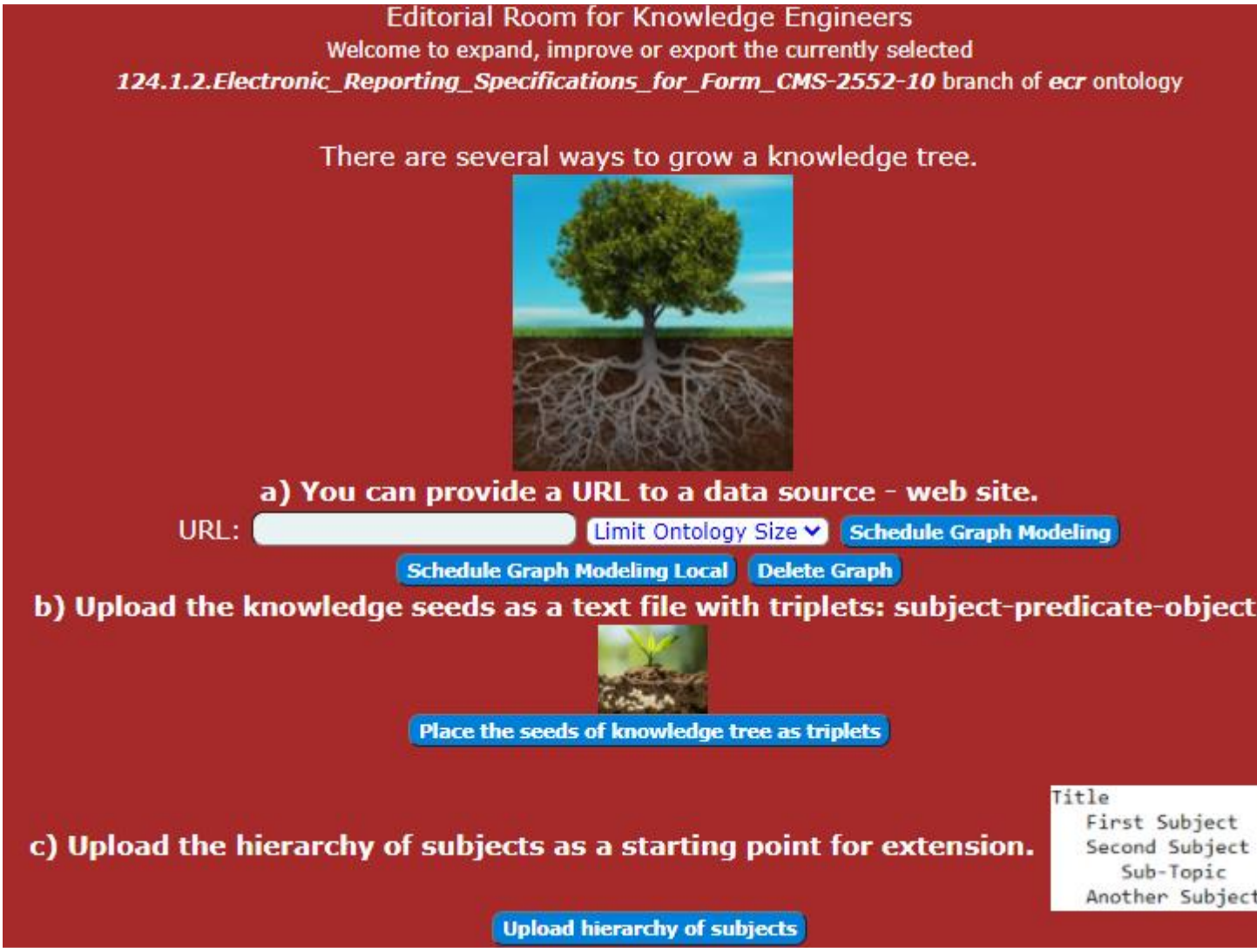
Check the [Semantic Graph] that covers Internet Technology Summit Program

You can see the internal link "Talk to our consultants" – actually AI Assistant, but if anyone from human-consultants online – they also can participate in this chat.

> There must be a generic set of questions related to the generic properties of the model of a selected domain
>
> We should set these questions as a core of a decision tree for AI Assistant; from each core question there should be branches (discovered by search) ended by a leaf (answer)

Subject Matter Experts (SME) can use the Semantic Editor to deal with topics / concepts stored to add/delete concepts, modify the model – add/delete properties and helping **conversion to ontology**.





How ontology helps in the conversation?

Ontology is the most complete way to describe the domain knowledge. Ontology presented as a graph of connected branches and leaves.

There are methods to calculate which branch or even a leaf is the closest fit to the user's request.

If this is not leaf but a branch – the branch must be connected to a set of questions for a user to clarify further and eventually find a leaf = solution.

Feedback: If none of existing branches match criteria, the system sends the request to a knowledge engineer with the request to create a new branch.

The alternative is the request to the cloud with the automatic search on the Internet for the new branch.

(BASE has this alternative service).

Relevant links: 6 Steps

https://itofthefuture.com | https://captureknowledge.org | https://dabhand.us

https:/ituniversity.us | https://patents.justia.com/inventor/yefim-zhuk

Development Factory with Conversational AI

https://patents.google.com/patent/US10956676B2/en

Development Factory patent and its BASE implementation

https://aitu.us/itu/DevelopmentFactoryAndBASE.pdf

Conversational Semantic Decision Support: http://AskCSDS.com

The message from 2040
