I.1. Project Definition

B2B Matchmaking System

Applications on our smart phones, smart watches, tablets, and computers will become an indispensable aspect of our lives in the modern world. People may access data practically anywhere, perform any tasks on their mobile devices, and other things by expanding the internet throughout the world (e.g., by establishing 5G networks, satellite internet, or free WiFi spots) and having smart gadgets with powerful processors and vast memories.

Governments and societies will become more and more electronic as a result of the rapid change in the techniques and tools we use to solve problems on a daily basis. This means that either we need more applications or more functional and flexible portable devices for managing our job remotely (i.e. smart phones).

Although, the need for new applications on our computing devices (i.e., from a small smartwatch till a powerful professional laptop) is increasing constantly, however, the number of IT companies which provide services for application development requests hasn't increased with the same pace or distributed even in all parts of the world. Therefore, it is necessary to have some kind of matchmaking systems to connect **clients** to **providers** in this little global communication village.

Our **B2B Matchmaking System** is a bridge between **clients** and **providers**. **Providers** are those IT companies that can consult and develop different varieties of software systems, and **clients** are any type of customers that can order and pay for a development process. Our system tries to list best matches for our clients based on their interesting keywords.

This problem, is the main motivation beyond our project which we aim to build a system that answers this need using an agent-based methodology.

Our project has three main steps. Each Step will be delivered as a separate assignment:

1. **Step 1**: Project definition and High-level analysis
2. **Step 2**: Data interaction modeling and low-level design
3. **Step 3**: Implementation using JADE framework

For implementation we selected Java language, thus, we are going to use the JADE framework. Regarding the methodology we are going to use GAIA methodology for analysis and design our agent-based system.

We chose the GAIA methodology since it can be used with a variety of multi-agent systems and is broad in nature. It deals with both the macro-level (societal) and the micro-level (agent) aspects of systems.

GAIA is interested in how a community of agents works together to accomplish system-level objectives. What must be done by each individual agent in order to do this is another area of concern.