UltraCore™ Data Sheet

Product Description	End-to-end platform for the development of multi-tiered Rich Internet Applications. Built on top of the Java EE platform, it completely hides its complexity while fully leveraging the advantages of this technology. Application development with UltraCore™ takes place in Java within the UltraCore™ Source Code Model; that is a predefined Java code outline providing a high level of abstraction from technology peculiarities and concentrating in the modeling of business logic and the creation of an appealing user interaction. In this way it facilitates an extremely efficient and qualitative software development process compared to conventional web development / to development with other web frameworks currently available on the market. UltraCore™ provides furthermore several ready-to-use modules and programming concepts that cover a multitude of features needed in modern business applications. With UltraCore™ the developers can concentrate on business logic rather than on technology-related issues. The only prerequisites for developing with UltraCore™ are basic knowledge of the Java Programming Language and Relational Databases.
Key Features	• Creates multi-tiered fully scalable applications • Supports all modern Web Browsers • Runs on top of modern Java EE application servers • Runs on top of servlet containers (like Tomcat, etc.) • Supports all major open-source and commercial DBMS • Easy extendibility of the created applications to mobile devices like palmtops, mobiles, etc. • Accessibility over telecommunication channels like phone (IVR, TTS), SMS, E-mail and Fax (in combination with the UltraTelecom™ Product of ULTRA4). • Separation of Presentation- and Business Logic • Code-oriented development approach *Avoids configuration-based programming as much as possible.*

- Fusion of plain data with meta data

  Data modeling via Rich Objects, meaning that the data objects to be exchanged between the layers are enriched with all the metadata (e.g. validation rules, database mapping, security constraints, etc.) that is necessary during the processing chain.

- Use Case-based implementation of business logic

  Business logic is implemented via Use Cases, where a Use Case follows the Prepare-validate-execute Pattern. Use Cases exchange Rich Objects with the Data- and the Presentation Layer and provide automatically default business logic according to the Rich Objects they receive. Developers implement explicitly only specialized business logic. Use Cases may consist of more than one Phase in order to implement wizard-like business logic.

- Complete data persistency layer

  Advanced Object Relational mapping supporting out-of-the-box all major open source- and commercial databases.

- Asynchronous execution of tasks & scheduling of tasks for future execution

  Because advanced modern business applications need the possibility to send to the background / schedule for certain time slots the execution of heavy processing.

- End-to-end security / Complete reproduction of business layer security to the UI

  Including role-based functional security, data security and data encryption. Security constraints being defined at the Business Layer are automatically applied in the Presentation Layer.

- Rich user interface with AJAX capabilities including comprehensive UI component library

  UltraCore comprises more than 40 high-quality GUI components. It offers the possibility of implementing server requests via AJAX. Custom GUI components can be developed and integrated by following a documented process. Switching between AJAX and non-AJAX mode can be done transparently via configuration.

- Web Templating

  Given a web template, the UltraCore Templating Engine injects user interface components or parts of components into it at runtime. In this way, highly-designed web templates (like for example Joomla templates) can be directly used in an application providing a sophisticated UI and a rich user experience. This allows for going beyond simple styling: user interface components

can be positioned independently from the code that defines their logical behavior. Templates can be defined as plain HTML, thus making them viewable also offline.

- Out-of-the-box modules for almost any state-of-the-art business functionality (e.g. Logging, Auditing, Reporting, Notifications, Alarming, User Management with LDAP connectivity, etc.)

- Integrated end-to-end automated testing

  UltraCore provides you with an end-to-end testing framework, allowing you to record and play a complete animated test in a Web Browser, testing through from browser to presentation- to logic- and data tier. At all levels, the testing framework can produce detailed information regarding failures, and will report it nicely on screen and/or in a structured Excel list, including the exact location of the possible problems in the source code. It is also possible to view detailed test step information (i.e. execution stack and performance information) in form of visual charts.

- Remote application execution

  It allows you to login to another UltraCore application, establish a session for that application and execute a new logic inside the context of the remote application. The code is deployed at runtime on the remote application and possesses all the capabilities as if it would have been developed and deployed inside the remote application.

- Real-time server push technology

  Real-time server push engine, allowing for pushing events from the server directly to browser clients. The real-time engine supports both streaming and long polling (comet style).The real-time engine comes together with two high-level components that can be used to build full Remote Desktop functionality. UltraCore developers can use the engine to implement further real-time applications like remote presentation with broadcasting to multiple users, conferencing, chat, etc.

- User customizing of UI Elements

  Application users can customize certain GUI elements in order to fit exactly to their needs. The customizations of the users are stored automatically so that later sessions restore the preferred settings. It is possible to reorder Grid columns, hide/display Grid columns, reorder Tab elements and hide/display Tab elements.

- PDF rendering of all screens

  Every application screen can be rendered to PDF in form of a report. In this way you achieve independency from problematic behavior of the browser's built-in print functionality and can easily communicate screen contents. You also avoid the time- and cost

intensive development of reports for most applications.

- Frontend modularity

  UltraCore provides the capability to re-use a dialog or a combination of dialogs inside the same or another application. This is achieved by using so-called Return Points. A Return Point allows the returning from a dialog to the initiator of the dialog as well as the passing of data via the loosely coupled firing of events. Furthermore, UltraCore provides the capability of Automatic Dialog Chaining, giving the possibility to return to any dialog in the chain and to comfortably search for any UI component inside the dialog chain.

- Web Applications Designer

  Built-in tool for the construction of complex UI screens via drag and drop and interactive configuration of UI components, featuring the automatic generation of highly structured source code. When running an application in design mode it is possible to jump directly from the UI components in the browser into the associated source code inside the IDE. In this way, it is possible to instantly locate the creation point of the component and its event handlers in order to edit the source code immediately.

- Monitoring and profiling of applications

  Ready-to-use component providing live statistics on users, sessions, server- and memory load, threads, cache and much more. The worst performing Use Cases and data operations (SQL Statements) are displayed. It is possible to profile the memory usage of complete object graphs, where the profiling mechanism is optimized for usage in production systems.

Intended Audience	Software companies aiming to deliver successful, full scale enterprise rich internet applications designed for the future.
System Requirements (for application development)	- Can be used together with the IDE of your choice (Netbeans, Eclipse, JDeveloper etc.) - Any operating system, for which a Java runtime exists
System Requirements (for deployed applications)	- Any operating system, for which a Java runtime exists - Any modern web browser - Other requirements depend on the particular application
Licensing	**UltraCore™ binary**: Company-wide license including executable UltraCore™, documentation, commerce friendly (LGPL and Apache 2.0) licenses for all the third-party products required by

UltraCore™ and all the minor upgrades of UltraCore™.

- **UltraCore™ full**: Company-wide license including the complete source code of the UltraCore™, documentation, commerce friendly (LGPL and Apache 2.0) licenses for all the third-party products required by UltraCore™ and all the minor upgrades of UltraCore™.

NOTE: The company-wide licenses can be combined with in-house consultancy services and/or team coaching of 1 or more months in the context of concrete software projects.

For more information and/or a presentation at your company's premises, please contact ULTRA4 – Advanced Information Systems, Thessalonica, Greece, phone (+30) 2310 387 344, email info@ultra4.eu or visit our web site www.ultra4.eu.