**PROJECT NAME: UniLearn**

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| TASK # | PROJECT TASKS WHICH REQUIRE SOFTWARE TOOL SUPPORT |
| 1 | Database: long term relaible, safe data storage. |
| 2 | Front-end Libraries: for developing UI. |
| 3 | IDE: for implementation and testing. |

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| SOFTWARE TOOLS FOR TASK 1: DATABASE |
| Tool Cost/Training/Functionality Data   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Tool | Oracle Database | IBM  DB2 | Amazon RDS | Microsoft SQL Server | | Cost | $3,454 | $969 | $6,240 | $1,260 | | Training Days | 14 | 11 | 13 | 17 | | Functionality | 85 | 40 | 90 | 70 |   Normalized Cost/Training/Functionality Data   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Tool | Oracle Database | IBM  DB2 | Amazon RDS | Microsoft SQL Server | | Cost | 55.14 | 15.58 | 100 | 20.16 | | Training Days | 82.35 | 64.71 | 76.47 | 100 | | Functionality | 94.44 | 44.44 | 100 | 77.78 |   Normalized Tool Graph |
| Selection & notes:  The selected tool for the project is Amazon RDS. This choice is made due to its scalability, high availability, managed service, and cost-effectiveness. For example, in our project aiming to provide an integrated online learning platform for university students, Amazon RDS is chosen to handle the database management efficiently. With the platform expected to scale rapidly as more universities and students join, Amazon RDS offers the flexibility to easily expand database resources as needed. Its high availability ensures uninterrupted access to course materials and student data. Additionally, as the project team may not have extensive experience in database management, Amazon RDS's managed service automates many tasks, reducing the need for manual intervention and allowing the team to focus on other aspects of the project. Lastly, Amazon RDS's cost-effective pricing model aligns well with the project's budget constraints, ensuring that resources are used efficiently. Overall, Amazon RDS emerges as the optimal choice for our project due to its comprehensive features and suitability for our specific requirements. |

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| SOFTWARE TOOLS FOR TASK 2: Front-End libraries |
| Tool Cost/Training/Functionality Data   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Tool | React | Angular | Vue.js | Svelte | | Cost | $0 | $0 | $0 | $0 | | Training Days | 10 | 17 | 7 | 10 | | Functionality | 95 | 85 | 90 | 85 |   Normalized Cost/Training/Functionality Data   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Tool | React | Angular | Vue.js | Svelte | | Cost | 0 | 0 | 0 | 0 | | Training Days | 58,8 | 100 | 41,2 | 58,8 | | Functionality | 100 | 89,5 | 94,7 | 89,5 |   Normalized Tool Graph |
| Selection & notes:  We selected React for developing front-end part of website. Because it gives us more  functionality due to reusablitiy and its speed. It doesnt take too much time to learn, vue.js can  be another option because of its simplicity and low training days, but we dont have time issues  and since theres no Money cost for these libraries, react will be best option. |

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| SOFTWARE TOOLS FOR TASK 3: Integrated Development Environments. |
| Tool Cost/Training/Functionality Data   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Tool | JetBrains  WebStorm | Atom | Visual Studio  Code | Sublime Text | | Cost | $160 | $0 | $2500 | $650 | | Training Days | 13 | 7 | 8 | 7 | | Functionality | 80 | 70 | 95 | 70 |   Normalized Cost/Training/Functionality Data   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Tool | JetBrains  WebStorm | Atom | Visual Studio  Code | Sublime Text | | Cost | 6,4 | 0 | 100 | 26 | | Training Days | 100 | 53,8 | 61,5 | 53,8 | | Functionality | 84,2 | 73,7 | 100 | 73,7 |   Normalized Tool Graph |
| Selection & notes:  The selected IDE as a software tool for this project is Visual Studio Code. Our general approach  was “functionality > cost” as importance. The reason for that selection is that other good IDEs  for web site development like WebStorm or SublimeText are unnecessarily expensive for less  functionalitiy, they dont have testing tools, colloborative tools, etc. Vs code is more known, has  tools for management (agile tools), in general more functional. |