**Online Education Course Search Engine**

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**Framework:** ASP. Net with C#

**Database:** SQL Server

**Executive summary-**

Our team is responsible for creating a search engine that will display the courses for an online education platform. This search engine will take the users input, example “Introduction to C++”, and display that class and class information for the online student. The total cost of the project is estimated at $228,045, which will cover the cost of three developers, IDE’s, and server. Currently, the team so far has compared servers and frameworks, created diagrams to outline the project, and designed and developed to the point of a proof of concept.

**Requirements-**

* Show results of search.
* Must scale to 10,000 students.
* Course ID, Course Name, course description, professor name, how much lecture is there (total), how many students must be shown in results.
* Search by course id or id
* Deviation from search should be one letter.
* Runs on client-server architecture.
* Classes fill at 100 students.
* 10 courses per page
* Layout should be in tiles.
* Should be able to sort results by alphabetical and number of students.

**Cost Analysis-**

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| --- | --- | --- | --- |
| **.NET** | | | |
|  | Year Cost | Monthly | Total (9months) |
| Person 1 | $100,000 | $8,333.33 | $75,000.00 |
| Person 2 | $100,000 | $8,333.33 | $75,000.00 |
| Person 3 | $100,000 | $8,333.33 | $75,000.00 |
| Visual Studio Cost | $539 | $44.92 | $404.25 |
| SQL Server Cost | $1,418 | $118.17 | $1,063.50 |
| Amazon EC2 | $2,102 | $175.20 | $1,576.80 |
|  |  |  |  |

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| --- | --- | --- | --- |
| **Node .JS** | | | |
|  | Salary | Monthly | Total (9months) |
| Person 1 | $ 113,000.00 | $9,416.67 | $84,750.00 |
| Person 2 | $ 113,000.00 | $9,416.67 | $84,750.00 |
| Person 3 | $ 113,000.00 | $9,416.67 | $84,750.00 |
| Trainer | $ 70,000.00 | $5,833.33 | $52,500.00 |
| Developer | $ 113,000.00 | $9,416.67 | $84,750.00 |
| Amazon EC2 | $ 2,102.40 | $175.20 | $1,576.80 |
| Node .JS | $ - | $0.00 | $0.00 |
| Mongo DB | $ - | $0.00 | $0.00 |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Total** | | | |
|  | Salary | Monthly | Total |
| .NET | $304,059 | $25,338 | $228,045 |
| Node .JS | $ 524,102.40 | $ 43,675.20 | $ 393,076.80 |
| Difference | $ 220,043.00 | $ 18,336.92 | $ 165,032.25 |
|  |  |  |  |

**Proof of Concept-**

* Basic GUI
* Full Course Database
* Functionality to search
* Proper Feedback to user

**Conclusion-**

In the next semester our team plans to finish the search engine for the online education system. This will include implementing many of the key features that the proof of concept does not include. This will start by creating functions that support the requirements for the search. This would include sorting the search results, showing courses that are a letter off, and other requirements. Once the full functionality of the engine is finished, we will be able to design and create a user-friendly GUI. This will include the search as well as the results page. The search engine will flow well with the online education platform and benefit the students of the university.