

Project-Based Learning

Data Driven Look : Interactive Visualization of International Office Activities

Team Identity:

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Member Sharing and Contribution



Rendi Sinaga

Tasks and contributions:

Analys, Design, Implementation, and Testing



Oktarira Die Ananda

Tasks and contributions:

Analys, Design, and Deployment



Khairunnisa

Tasks and contributions:

Analys and Design



Cindy Anggraeni

Tasks and contributions:

Testing and Deployment



Syalzi Astaudi

Tasks and contributions:

Design and Implementation



Farrel Ariq Nadhil

Tasks and contributions:

Analys and Testing



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Problems Encountered

Typically, data on activities in International Affairs is maintained in Excel format, which results in accessibility challenges in data comprehension. In such formats, few people have the ability to read, analyze and glean insights from the available data.



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Solutions

To overcome this problem and improve the transparency and accessibility of data, it is necessary to build an application that can facilitate users in reading and analyzing data on International activities more easily and efficiently. This application will provide an intuitive interface and interactive in-app data visualization that allows users to interact directly with the data, such as filtering the data, zooming in on certain sections, or viewing details when clicked. With the use of web technologies and interactive data visualization, this application not only improves data accessibility, but also increases transparency and allows users from different backgrounds to benefit from the information available.



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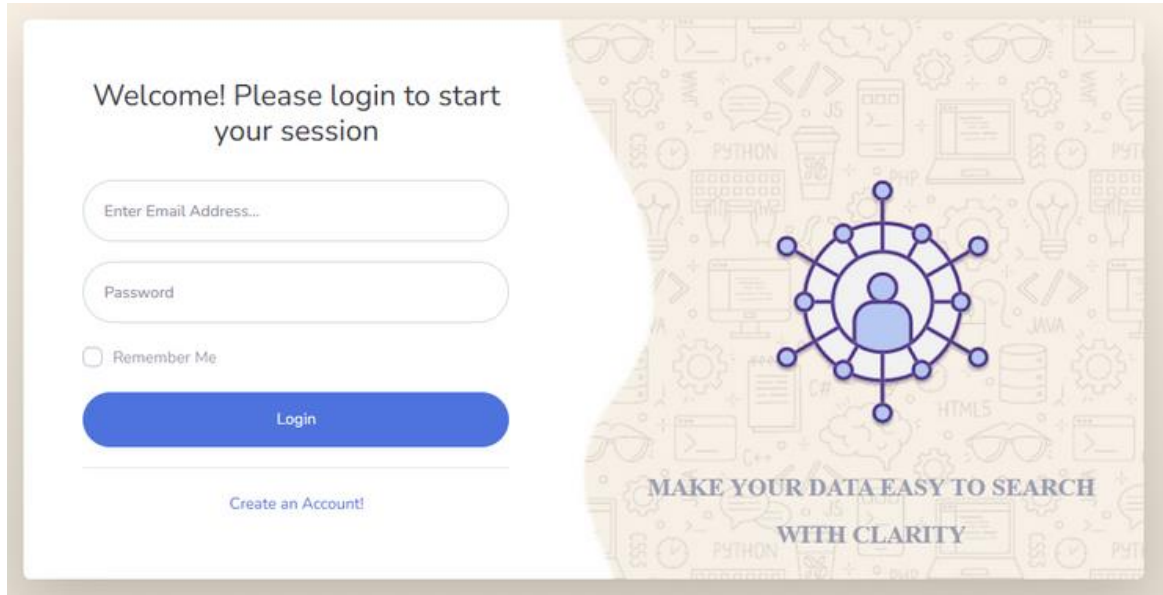
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Application Features

The following are the features developed in this application:

- F001 Employees can register an account
- F002 Admin and employees can login
- F003 Admin can manage employee data
- F004 Admin can manage activity data
- F005 Admin can manage sector data
- F006 Admin can manage sub-sector data
- F007 Admin can manage activity percentages
- F008 Employees can manage activity percentage
- F009 Admin and Employees can view data visualizations based on activities
- F010 Admin and employees can view data visualizations by sub-sector
- F011 Admins and employees can view data visualizations by sector
- F012 Admin and employees can view data visualizations based on employee name
- F013 Admin and employees can logout

Product Application



Login Page

On this login page displays a page for employees and admin who already have an account, to login admin and employees only need to enter their email and password.

Product Application

CLARITY Welcome , Admin [Logout](#)

Subsector

Showing filter for : All Sector

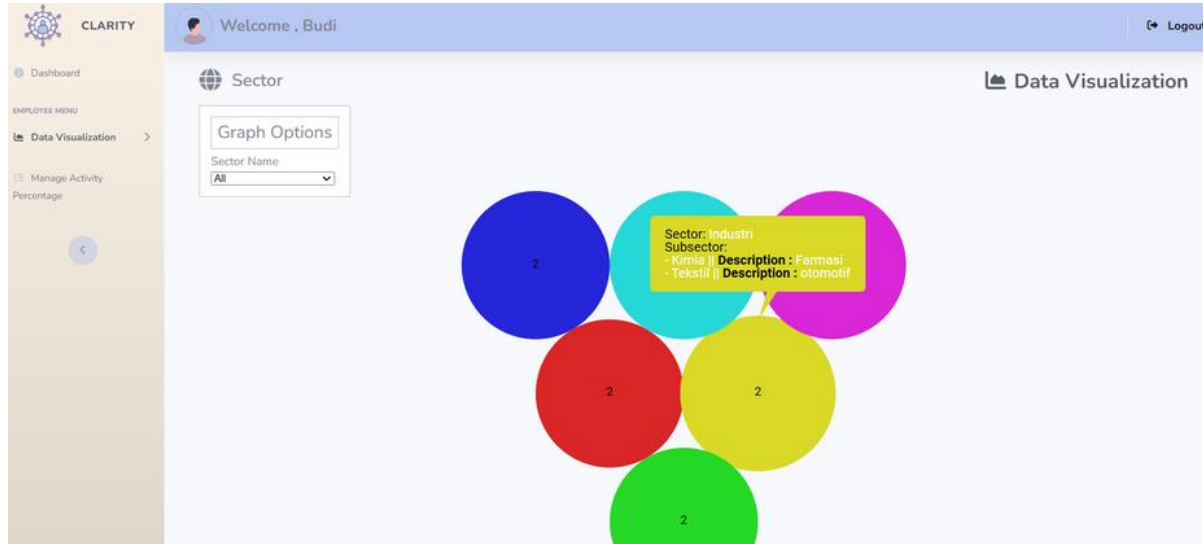
Show 10 entries Search:

No	Sector	Subsector	Description	Action
1	Pertanian	Tanaman Pangan	Tanam Ubi-ubian	Edit Delete
2	Pertanian	Peternakan	Ternak sapi	Edit Delete
3	Industri	Kimia	Farmasi	Edit Delete
4	Industri	Tekstil	otomotif	Edit Delete
5	Jasa	Pendidikan	Sekolah Menengah Pertama	Edit Delete
6	Jasa	Kesehatan	Chek kesehatan di Rumah Sakit	Edit Delete

Manage Subsector Page

On the manage subsector page, admin can add, delete, and change subsector data, as well as select filters based on sector.

Product Application



Data Visualization Page

This page is intended for employees to view data visualizations by sector. In the data visualization by sector, employees can see the sectors and subsectors connected to the sector.

Benefits of Application Products

The benefits obtained when using this system include:

- 1.Data Driven Look application for employees is a web-based system that makes it easy for employees to view and analyze data easily.
- 2.This application can facilitate the admin in inputting employee data.
- 3.Improve data understanding through displayed graphs
- 4.The app can spend less time searching for data.



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Testing and Validation Plan

The following is the testing methodology used for application testing.

Test Case Number	Test Case Name	Functionality Requirements	Test Type	Date of Testing	Examiner's Name
KU-001	Employee account registration function test	MF-1	Black box	31/05/2024	Brindle
KU-002	Testing the login function with admin data	MF-2	Black Box	31/05/2024	Brindle
KU-003	Testing the login function with employee data	MF-2	Black Box	31/05/2024	Brindle
KU-004	Log in test with incorrect email or password	MF-2	Black Box	31/05/2024	Brindle
KU-005	Testing the admin function can manage employee data	MF-3	Black Box	31/05/2024	Brindle
KU-009	Testing the admin function to manage the percentage of employee activity	MF-7	Black Box	31/05/2024	Brindle
KU-010	Testing the employee function changes the percentage of activities involved	MF-8	Black Box	31/05/2024	Brindle
KU-011	Functional testing of admin and employees to see activity data visualization	MF-9	Black Box	14/05/2024	Brindle
KU-015	Log out testing	MF-16	Black Box	31/05/2024	Brindle

Testing and Validation Plan

The following are the results of product testing and validation obtained after the application testing.

Identification	KU-002	
Test Case Name	Testing the login function with admin data	
Description	Normal login conditions	
Initial Condition	There is already an administrator account	
Testing Date	31 May 2024	
Tester	Brindle	
Scenario		
1. Log in with admin user id/email and password 2. Check login result		
Expected Results	Observation Results	Conclusion
The dashboard page appears	Pop up login successfully and enter the main menu window	Observation results are in accordance

Identification	KU-008	
Test Case Name	Testing the admin function to manage subsector	
Description	Admin can add, delete, and modify sub sector data, as well as select filters by sector	
Initial Condition	Already have a registered account	
Testing Date	31 May 2024	
Tester	Brindle	
Scenario		
1. Log in with admin's email and password 2. Admin select the Manage Sub Sector feature on the dashboard 3. Admin add new sub sector data 4. Admin change sub sector data 5. Admin delete sub sector data 6. Admin can filter sector		
Expected Results	Observation Results	Conclusion
Every admin add/change/delete sub-sector data, an approval pop-up appears.	Admin add/change/delete sub-sector data then pop up approval, pop up notification of data successfully changed. Every admin does a filter, the sector successfully appears based on the selected filter	Observation results are in accordance



Product Linkage with Course

Course	Minimum Requirement
Introduction to Project Management	Make a plan in running the project, create an implementation timeline, have a clear task structure, division of labor of members, and use additional tools in project management.
Software Design	Apply the basics of good design in the form of usecase, activity diagram, etc. according to the needs analysis.
Object Oriented Programming	Coding applications based on requirements using object-oriented web-based programming languages.
Database Programming	Create a database based on requirements supported by ERD or EERD, and perform data normalization, apply user access rights.
Data Structure	Apply data structure concepts to applications such as stack, queue, FIFO, LILO.
Statistics	Present statistical data in applications by applying data visualization
Indonesian Language Education	Present the report with good grammar, and present the report in a neat form.

Results and Conclusions

1. Data driven look application makes it easy for users to read and analyze data efficiently with interactive visualizations.
2. All main features such as managing sector, sub sector, employee, and activity data function according to predetermined specifications.
3. Visualization features based on activity, employee, sector and subsector can display graphs according to the input data
4. Admins can filter data to make it easier for admins to group data based on the selected filter.



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Closing

We would like to thank the lecturers and project managers who have guided us in completing this project. With this project, we can understand more about web-based application development. We hope that this Data Driven Look application can help many people in managing and understanding a lot of data, so that this application can provide great benefits for everyone.



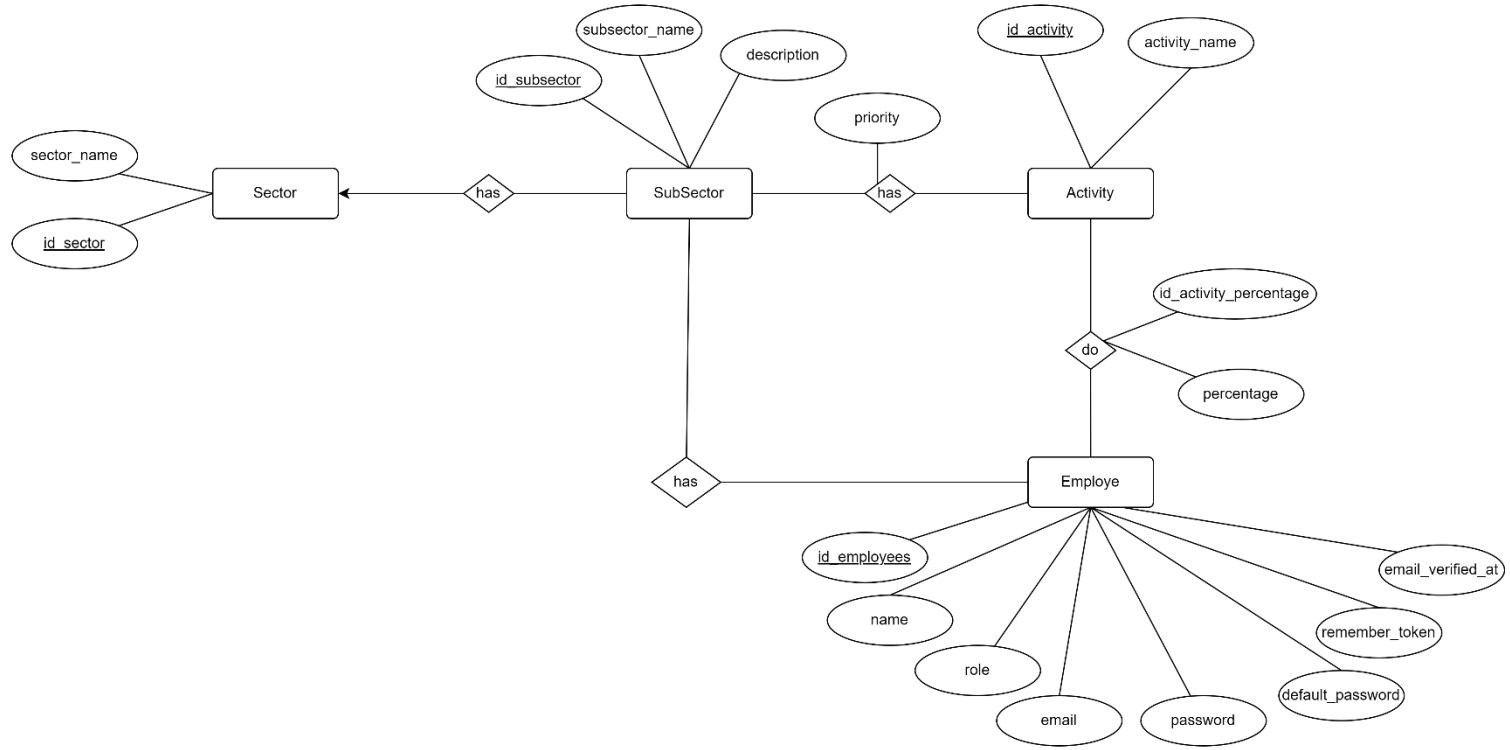
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Supporting Documents

Here is the entity-relationship diagram of the Data Driven Look application.



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