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202202228

**Zewail University**

1. **Project:**

This project is about creating a dashboard that shows important information about the students at Zewail University. The dataset includes details like the student's name, ID, school, major, GPA, gender, and status (like whether they are a freshman, sophomore, etc.). By analyzing this data, we can learn more about the students at the university.

**Project Definition**

* **Client:** Zewail University Administration and Faculty
* **Available Information:**
  + Student Name
  + Student ID
  + School (Business, Engineering, Science, Computer Science)
  + Major
  + GPA
  + Gender
  + Status (Freshman, Sophomore, Junior, Senior)
* **Required Questions:**
  + What is the gender distribution of the student population?
  + How many students are enrolled in each school?
  + What is the distribution of GPAs across the student body?
  + How are students distributed across different academic levels (Freshman, Sophomore, Junior, Senior)?

1. **Charts:**

**1. Bar Chart (Percentage of Males vs. Females)**

* X-Axis: Gender (Male, Female)
* Y-Axis: Number of Students
* Purpose: The bar chart is used to compare the number of male and female students at Zewail University. By visualizing this data, we can easily see the gender distribution and how balanced or unbalanced it is. It is helpful for understanding gender diversity within the student body.

**2. Pie Chart (Percentage of Students in Different Schools)**

* Segments: Business, Engineering, Science, Computer Science (CS)
* Purpose: The pie chart shows how many students are enrolled in each of the university's schools. By using a pie chart, we can quickly understand the proportions of students in each field of study. It helps to visualize the popularity or size of each school at the university.

**3. Histogram (GPA Distribution of All Students)**

* X-Axis: GPA Range (0.0 to 4.0)
* Y-Axis: Number of Students
* Purpose: The histogram visualizes the distribution of GPA scores across all students at the university. It helps in understanding how students are performing academically. By breaking the GPAs into ranges, we can easily see how many students fall into different academic performance categories (e.g., low, average, high).

**4. Pyramid Chart (Percentage of Student Status)**

* Levels: Freshman, Sophomore, Junior, Senior
* Purpose: The pyramid chart visualizes the percentage of students at different stages of their university journey (Freshman, Sophomore, Junior, Senior). It shows how students’ progress through their academic years. This chart helps to quickly see the distribution of students at each academic level, highlighting trends in student progression and retention.

1. **Layout:**

**A screenshot of a graph

Description automatically generated**

1. **Gender Distribution:** This section displays a bar chart representing the proportion of female and male students. The bars are colored pink for females and blue for males, making it easy to distinguish between the genders.
2. **GPA Distribution:** A bar chart is used to illustrate the distribution of GPAs across different ranges. Each bar represents a GPA range, and the height of the bar indicates the number of students falling within that range.
3. **Percentage of Schools:** A pie chart is employed to show the percentage of students enrolled in various schools. The pie chart is divided into segments, each representing a different school, and the size of each segment corresponds to the percentage of students in that school.
4. **Percentage of Students Status:** A pyramid chart is used to visualize the distribution of students based on their academic status (Junior, Senior, etc.). The size of each triangular segment represents the percentage of students in that status.

**Design Considerations:**

1. **Color Choices:** The color scheme is carefully chosen to enhance readability and visual appeal. The use of contrasting colors for different categories (e.g., pink for females, blue for males) makes it easy to distinguish between them. The color palette is generally light and airy, promoting a sense of clarity and openness.
2. **Chart Positioning:** The charts are strategically positioned to create a logical flow and facilitate easy comparison. Related charts are placed close to each other, making it easier for the user to understand the relationships between different data points. For example, the Gender Distribution and GPA Distribution charts are placed side-by-side, allowing for a quick comparison of gender-based GPA variations.
3. **Chart Types:** The choice of chart types is appropriate for the type of data being presented. Bar charts are effective for comparing categorical data, while pie charts are suitable for visualizing proportions. The triangle chart in the fourth section adds a unique and visually engaging element to the dashboard.
4. **Labeling and Formatting:** The charts are clearly labeled with titles and axis labels, making it easy to understand what the data represents. The use of gridlines and clear formatting enhances the readability of the charts.
5. **Overall Simplicity:** The dashboard maintains a clean and uncluttered design, avoiding excessive visual elements that could distract the user. This simplicity contributes to a more focused and user-friendly experience.

Overall, the dashboard effectively communicates the key insights about the student population using a well-organized and visually appealing layout. The design choices ensure that the information is presented in a clear and accessible manner, enabling users to easily understand and interpret the data.

**SNAPSHOTS:**

**A graph of a number of people

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Description automatically generated with medium confidence**

**A blue pie chart with white text

Description automatically generatedA graph of a pyramid

Description automatically generated with medium confidence**