Thesis Experiment Analysis

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Introduction

In this analysis, we examine the results of our experiment focusing on participants' preferred systems. The goal is to understand the distribution of preferences and gain insights that could inform future developments.

Loading the Data

We begin by loading the necessary data from the Excel file.

```
# Read the Excel file
data <- read_excel("Experiment Results Overview.xlsx", sheet = "Overview Without dropouts")

# Display the first few rows of the data
head(data)
```

```
## # A tibble: 6 x 23
##   ParticipantID Timestamp           RunID   Age Gender Times `Duration (in min)`
##           <dbl> <dttm>              <chr> <dbl> <chr>  <chr> <chr>
## 1             5 2024-09-17 13:12:06 A        20 Male   13:0~ 35
## 2             7 2024-09-17 15:23:46 C        25 Female 15:2~ 30
## 3             8 2024-09-17 16:07:16 D        24 Male   16:0~ 31
## 4            10 2024-09-17 18:14:05 B        59 Male   18:0~ 32
## 5            11 2024-09-18 09:17:45 C        23 Male   9:14~ 30
## 6            13 2024-09-18 12:23:50 A        79 Female 12:1~ 41
## # i 16 more variables: `Preffered System` <chr>, `Video allowed` <dbl>,
## #   `Baseline Mistakes` <lgl>, `BT Mistakes` <lgl>,
## #   `TTR Baseline (Turns to resolution)` <lgl>, `TTR BT` <lgl>,
## #   `Time spent with Baseline` <lgl>, `Time spent with BT` <lgl>,
## #   `Correct JSON Baseline` <lgl>, `Correct JSON BT` <lgl>,
## #   Qualification <chr>, `English Proficiency` <chr>, `Robot experience` <chr>,
## #   `Baseline Notes` <chr>, `Behaviour Tree Framework Notes` <chr>, ...
```

Exploring the Data

Before diving into the visualization, let's briefly explore the data to understand its structure.

- **Total Participants:** 39

- **Columns Available:** ParticipantID, Timestamp, RunID, Age, Gender, Times, Duration (in min), Preffered System, Video allowed, Baseline Mistakes, BT Mistakes, TTR Baseline (Turns to resolution), TTR BT, Time spent with Baseline, Time spent with BT, Correct JSON Baseline, Correct JSON BT, Qualification, English Proficiency, Robot experience, Baseline Notes, Behaviour Tree Framework Notes, Overall Notes

Including Plots:

```
# Create a bar plot of the Preferred System
ggplot(data, aes(x = `Preffered System`)) +
  geom_bar(fill = "steelblue") +
  labs(title = "Distribution of Preferred Systems",
       x = "Preferred System",
       y = "Count") +
  theme_minimal()
```