A DEBATE TOURNAMENT TABULATION SYSTEM. CASE STUDY: KYAMBOGO UNIVERSITY DEBATE SOCIETY

BY

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A RESEARCH REPORT SUBMITTED TO THE SCHOOL OF COMPUTING AND INFORMATION SCIENCE, DEPARTMENT OF COMPUTER SCIENCE IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE BACHELOR'S DEGREE IN INFORMATION TECHNOLOGY AND COMPUTING OF KYAMBOGO UNIVERSITY

JULY, 2024

DECLARATION

I, Ahairwe Jordan, declare that the work presented in this research report is my original work and has not been submitted to any University or institution of higher learning for any academic award. All work from authors has been fully and properly acknowledged and cited.

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APPROVAL

This is to certify that this research proposal titled: “A Debate Tournament Tabulation System. Case Study: Kyambogo University Debate Society” has been carried out under my supervision and is now ready for submission to the Examinations Board and Senate of Kyambogo University.

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DEDICATION

This work is dedicated to the unwavering spirit of academic excellence and the pursuit of knowledge. RhetoTab is a testament to the countless hours of dedication, collaboration, and intellectual curiosity exhibited by debaters, judges, and tabmasters around the world. May this system serve as a beacon of innovation and fairness in the realm of competitive debate, fostering critical thinking, eloquent expression, and the noble art of persuasion. We honor the educators, mentors, and students who inspire us to strive for greatness and uphold the highest standards of scholarly integrity.

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LIST OF ACRONYMS

APD	Asian Parliamentary Debate
DIA	Debate Institute Africa
KYUDS	Kyambogo University Debate Society
NGO	Non-government Organization
WSDF	World Schools Debate Format
WSDC	World Schools Debating Championship
WUDC	World Universities Debating Championship
UNSA	Uganda National Students' Association
ORM	Object-Relational Mapping
SQL	Structured Query Language
ERD	Entity Relationship Diagram
DFD	Data Flow Diagram

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CHAPTER ONE

INTRODUCTION

1.1. Introduction

This chapter introduces the research proposal, focusing on developing Rhetotab to enhance debate tabulation processes within the Kyambogo University Debate Society (KYUDS). It begins with an overview of the project's background, highlighting the historical evolution of debate societies globally and the specific context of debate culture in Uganda. The problem statement identifies the challenges faced by KYUDS in manual tournament organization and tabulation, leading to the formulation of research questions and objectives. The scope of the study is defined, covering subject, time, and geographical aspects. The significance of the study is discussed, emphasizing its potential impact on operational efficiency, transparency, cost reduction, skill development, academic excellence, and knowledge contribution. Finally, the chapter concludes with a summary of the subsequent sections, outlining the structure of the research proposal.

1.2. Background of Study

1.2.1. Historical Background of Kyambogo University Debate Society

Kyambogo University Debate Society (KYUDS) is a society under the auspices of Kyambogo University, established in 2009 with the intention of unlocking the power of Kyambogo University students to engage in intellectual discourse by discussing various issues affecting them and the society around them. It is one of the oldest and most significant societies in the institution having represented the university in different national and international championships, most notably winning the University Debate Nationals back-to-back in 2017 and 2018 and winning the East African Universities Debate Championship (Lyn, 2017). The society has gone ahead to be the only Ugandan university to represent the country at the World Universities Debate Championship in 2019 (Shadrach, 2019) and most significantly is poised to host the largest debate championship in Africa, the Pan African Universities Debate Championship in December this year which shall be organized by Debate Institute Africa (DIA). As part of the preparations to host this prestigious championship, the society has embarked on having a series of weekly trainings and competitions and is also organizing an interfaculty competition. With all these significant steps and plans on the way, it still faces the challenge of handling its training information and database as a result of the lack of a tabulation system that most efficiently handles all that information.

1.2.2. Background of Debate Societies

Debate societies have a rich historical background dating back to ancient Greece, where philosophical discourse and argumentation flourished (Kennedy, 1994). Over time, this tradition evolved into structured debate formats practiced in academic institutions worldwide (Gross & Ray, 2002). Globally, debate societies serve as hubs for intellectual exchange, fostering critical thinking and communication skills among students across diverse cultures and contexts (Sellnow & Sellnow, 2013).

Ancient Greek Origins: Debate societies can trace their roots back to ancient Greece, where philosophical discourse and argumentation were central to intellectual life. Scholars like Kennedy (1994) have documented how the Greeks valued the art of rhetoric and dialectic, laying the foundation for structured debates and intellectual exchange. According to Tom, n.d.(2021), Debate is an ancient form of argumentation. Tom continues that it originated in Greece around 500 BC with Socrates, who used it as an educational tool in his philosophy classes at the Academy in Athens - so safe to say, we've been debating for thousands of years. The Roman orators Cicero and Quintilian were masters of debate - they taught their students how to argue both sides of an issue so well that their opponents didn't even know they were being beaten until it was too late! Medieval scholars also used debate as a method for discussing important ideas with each other in order to come up with new ways of thinking about things like science and religion (and whether or not unicorns existed).

Evolution into Structured Formats: Over time, the tradition of philosophical discourse evolved into structured debate formats practiced in academic institutions worldwide. Gross & Ray (2002) highlight this evolution, noting how debate societies emerged as formalized organizations dedicated to fostering critical thinking and communication skills among students. The most notable formats of debate included British Parliamentary (BP), World Schools Debate Format (WSDF), Karl Popper Format, Lincoln Douglas(LD), Mace Debating, Impromptu Debating, Extemporaneous Speaking, Australasian Debating, Asian Parliamentary Debate (APD). (Oxford Scholastica, n.d.)

Global Hubs for Intellectual Exchange: Debate societies have become recognized as hubs for intellectual exchange on a global scale. Sellnow & Sellnow (2013) emphasize how these societies transcend cultural and geographical boundaries, providing platforms for students from diverse backgrounds to engage in rigorous intellectual discourse.

Skills Development: One of the key functions of debate societies is to foster critical thinking and communication skills among students. Through participation in debates, students learn to analyze complex issues, articulate their arguments effectively, and engage in respectful dialogue with others.

Academic and Professional Benefits: Participation in debate societies not only enhances students' academic skills but also prepares them for success in their future careers. The ability to communicate persuasively, think critically, and engage in reasoned argumentation are highly valued in various professional fields, making debate society participation a valuable asset.

Cultural and Social Impact: Debate societies also play a role in shaping cultural and social norms by providing platforms for discussing and debating important societal issues. They promote democratic values such as free speech, tolerance, and open-mindedness, contributing to the development of informed and engaged citizens.

1.2.3. Debate Societies in Uganda

On a national level, debate culture varies, influenced by factors such as educational policies, cultural norms, and the prominence of debate as an extracurricular activity (Scheunemann & Paine, 2006). In Uganda, debate has gained traction as an important component of university education, reflecting a broader trend toward promoting critical inquiry and democratic engagement within the educational system (Busingye, 2019). It fosters critical thinking, civic engagement, and democratic values. Debating societies in primary schools and universities provide platforms for students to improve their public speaking, research, and argumentation skills. Universities also host active debating communities, organizing intervarsity tournaments, public debates, and workshops on socio-political issues.

In the political sphere, debate culture is crucial for shaping public opinion, policy discourse, and democratic governance. Uganda's multiparty political system and vibrant civil society provide a fertile ground for debates on governance, human rights, and social justice. Debates in Uganda are characterized by inclusivity and diversity, fostering cross-cultural understanding and social cohesion. Initiatives to promote gender equity and youth participation in debates further reinforce this inclusivity.

However, Uganda's debate culture faces challenges such as limited resources, institutional support, and training opportunities. Many schools and universities lack adequate funding and infrastructure for debating activities, hindering their growth and sustainability. Greater collaboration between academia, government, and civil society is needed to mainstream debate education and advocacy in national development agendas.

Within the context of Kyambogo University, the Debate Society holds particular significance. As one of Uganda's leading institutions of higher learning, Kyambogo University plays a pivotal role in shaping the academic and intellectual landscape of the country (Kyambogo University, n.d.). The Debate Society, within this context, serves as a platform for students to hone their public speaking skills, engage in rigorous intellectual discourse, and contribute to the university's vibrant academic community.

The specific perspective of this study lies in addressing the challenges faced by the Kyambogo University Debate Society in organizing and managing debate tournaments focusing mostly on tabulation. While debate societies globally and nationally encounter similar issues related to tournament organization, the unique context of Kyambogo University necessitates a tailored solution. Factors such as limited resources, infrastructure constraints, and the specific needs of students and faculty at Kyambogo University inform the development of Rhetotab as a customized debate tabulation system.

By examining the historical, global, national, and specific perspectives, this study seeks to provide a comprehensive understanding of the role of debate societies in higher education and the significance of modernizing debate tournament management practices at Kyambogo University.

1.3. Problem Statement

The manual organization and tabulation of debate tournaments at Kyambogo University present significant challenges to the efficiency and effectiveness of the debate society's operations. Currently relying on outdated manual methods, these processes are time-consuming, error-prone, and lack scalability, undermining the integrity of tournament results. Moreover, the absence of a centralized system for registration, pairing, scoring, and communication leads to disjointed workflows, miscommunication, and delays. Consequently, KYUDS struggles to maintain expected standards, impeding the development of critical skills among its members. Addressing these issues is crucial to enhancing competition quality and fostering inclusivity. Therefore, the development of Rhetotab, a web-based system, aims to revolutionize tournament organization by automating processes, minimizing errors, and improving accessibility, ultimately enhancing the overall experience for all stakeholders involved.

1.4. Research Questions

1.4.1. General Research Question

What system will address the challenges experienced by Kyambogo University Debate Society in debate tournament organization and tabulation?

1.4.2. Specific Research Questions

i. What are the requirements for a system that can address the challenges faced by Kyambogo University Debate Society?
ii. What design of system will address the challenges faced by Kyambogo University Debate Society during the organization and tabulation of tournaments?
iii. What testing and validation procedures shall be used to evaluate the designed system which is supposed to address the challenges faced by Kyambogo University Debate Society in tournament organization and tabulation?

1.5. Objectives of the Study

1.5.1. General Objective

To develop Rhetotab, a comprehensive web-based debate management system tailored to the specific needs and requirements of KYUDS, aiming to streamline tournament organization processes.

1.5.2. Specific Objective

i. To identify the requirements for a system that can address the challenges faced by Kyambogo University Debate Society.
ii. To design the system that will address the challenges faced by Kyambogo University Debate Society during the organization and tabulation of tournaments.
iii. To test and validate designed system which is supposed to address the challenges faced by Kyambogo University Debate Society in tournament organization and tabulation.

1.6. Scope of the Study

1.6.1. Subject Scope

The study centers around the creation and adoption of Rhetotab, a thorough online system for managing debate tabulation that is customized to meet the unique necessities and demands of the Kyambogo University Debate Society (KYUDS). The research delves into the obstacles that KYUDS faces in manually organizing and calculating debate competitions, as well as the possible remedies provided by Rhetotab.

1.6.2. Time Scope

The study will be conducted over a period of 6 months, which includes the design, development, implementation, and evaluation phases of Rhetotab. Following are the temporally time boundaries.

1.6.2.1. February 2024 to April 2024

Between February and April 2024, I will be dedicated to conducting a thorough evaluation and analysis of pertinent literature about Rhetotab - a Tournament Management System for Debates. The purpose of this exercise is to gain an in-depth understanding of the existing landscape, functionalities, and specific requirements associated with managing a debate tournament. This initial phase will involve seeking input and feedback from stakeholders, including debaters, patrons, adjudicators, and other relevant parties. These consultations will be instrumental in shaping the features and functionalities of the Rhetotab as we move forward with subsequent development stages.

1.6.2.2. May 2024

During this months, I will be dedicating my efforts to the development phase of the project. My attention will be focused on creating a robust Rhetotab platform that meets the requirements collected from KYUDS, utilizing advanced data tools. This will involve coding, thorough testing, and continuous refinement of the system to ensure that it functions optimally and aligns with our intended goals. Additionally, I will be preparing comprehensive reports to document our progress.

1.6.2.3. June 2024

During the final month of our development timeline, I will prioritize rigorous testing and evaluation of Rhetotab. This critical phase is designed to identify and address any bugs, glitches, or performance issues, ensuring a stable and reliable platform. My goal is to have Rhetotab fully developed, thoroughly tested, and hosted online by the end of June 2024, marking the completion of the initial development phase and signaling the official launch of the platform.

1.6.3. Geographical Scope

The upcoming research will concentrate on Kyambogo University, located in Kampala, Uganda, which serves as the hub for KYUDS' debate tournaments and operations. Although the study's conclusions and suggestions may be relevant to other academic institutions and debating associations, the primary emphasis will be on Kyambogo University.

1.7. Target Group

The target group for this research proposal encompasses various stakeholders involved in the management, participation, and oversight of debate tournaments within the Kyambogo University Debate Society (KYUDS). These stakeholders include:

i. **KYUDS Executive Committee**

The executive committee members play a crucial role in overseeing the overall operations of KYUDS, including tournament planning, organization, and execution. Their insights into the existing challenges and requirements for tournament management are essential for informing the development of Rhetotab.

ii. **Debate Society Members**

Active members of KYUDS, including debaters, adjudicators, and volunteers, constitute another key target group. Their participation and engagement in debate tournaments directly impact the success and effectiveness of the society's activities. Understanding their needs, preferences, and experiences with current tournament organization methods is vital for designing user-friendly features and functionalities in Rhetotab.

iii. **Tournament Organizers**

Individuals responsible for coordinating and managing debate tournaments, including registration, scheduling, tabulation, and communication, form an integral part of the target group. Their expertise in tournament logistics and administration provides valuable insights into the specific challenges and pain points associated with manual processes.

iv. **External Stakeholders**

External stakeholders, such as alumni, sponsors, and community partners, also have a vested interest in the success and sustainability of KYUDS' activities. Their involvement in debate tournaments as guest speakers, sponsors, or judges contributes to the diversity and richness of the debate experience. Engaging with external stakeholders ensures that Rhetotab aligns with the broader goals and objectives of the university and its surrounding community.

By targeting these diverse stakeholder groups, the research proposal aims to gather comprehensive insights into the challenges, needs, and opportunities associated with debate tournament management at Kyambogo University. Through collaborative efforts and stakeholder engagement, the development and implementation of Rhetotab can effectively address these challenges, streamline tournament processes, and enhance the overall experience for all participants involved.

1.8. Significance of the study

The significance of this study lies in its potential to address critical challenges faced by the Kyambogo University Debate Society (KYUDS) and contribute to the advancement of debate tournament management practices. The study holds several key implications:

1.8.1. To KYUDS Tournament Organizers

i. **Operational Efficiency:** By designing and implementing Rhetotab, a comprehensive web-based debate management system, the study aims to streamline tournament organization processes. This will lead to significant time savings, improved accuracy in tabulation, and enhanced overall efficiency in managing debate competitions.

ii. **Enhanced Transparency:** The introduction of Rhetotab will promote transparency in tournament management by providing a centralized platform for registration, pairing, scoring, and communication. This transparency will instill confidence among participants, judges, and organizers, ensuring fair and unbiased competition.

iii. **Cost Reduction**: Manual tabulation methods and outsourcing of tabulation software incur significant operational costs for KYUDS. By developing an in-house web-based system like Rhetotab, the study aims to reduce these costs, making tournament management more financially sustainable for the organization.

1.8.2. To Adjudicators

i. **Ease of Registration Process:** Rhetotab streamlines the registration process for tournaments, making it simpler and more efficient for adjudicators. With Rhetotab, judges can quickly register for tournaments, submit their availability, and provide necessary information without encountering the hassles often associated with manual registration methods. This saves adjudicators valuable time and ensures a smoother tournament preparation process.

ii. **Enhanced Communication:** Rhetotab facilitates improved communication between adjudicators and tournament organizers, as well as among fellow judges. The platform provides a centralized communication channel where adjudicators can receive updates, announcements, and important information regarding tournaments. Additionally, Rhetotab may include features such as messaging systems or discussion forums that enable judges to collaborate, share insights, and discuss tournament-related matters more effectively.

iii. **Simplified Ballot Submission:** Rhetotab simplifies the process of submitting ballots or votes for adjudicators. Instead of relying on paper-based ballots or cumbersome manual processes, judges can conveniently submit their evaluations, scores, and feedback through the Rhetotab platform. This not only reduces the likelihood of errors or inconsistencies but also accelerates the tabulation process, allowing tournament results to be determined more quickly and accurately.

1.8.3. To the Patrons

i. Enhanced Tournament Experience: Rhetotab aims to improve the overall experience of debate tournaments for patrons by introducing features that streamline various aspects of tournament management. With Rhetotab, patrons can expect smoother registration processes, efficient communication channels, and streamlined tabulation procedures. This enhances the overall quality of tournaments, making them more appealing to participants and spectators alike.

ii. **Increased Accessibility and Engagement:** By providing a user-friendly platform for tournament management, Rhetotab increases accessibility for patrons, participants, and spectators. Patrons can easily access tournament information, monitor progress, and engage with the debate community through the platform. This fosters a sense of involvement and encourages continued support for debate events.

iii. **Improved Brand Visibility:** Sponsoring or supporting debate tournaments through Rhetotab offers patrons increased brand visibility within the debate community. As tournaments become more organized, efficient, and widely attended, patrons associated with Rhetotab-supported events benefit from heightened exposure and recognition. This can lead to greater brand awareness, positive reputation, and potential business opportunities.

iv. **Data-Driven Insights:** Rhetotab provides patrons with valuable data-driven insights into tournament performance, participant demographics, and audience engagement. By leveraging data analytics features within the platform, patrons can gain deeper insights into the impact of their sponsorship efforts, identify areas for improvement, and make informed decisions about future investments in debate tournaments.

v. **Supporting Debate Community Growth:** Through their support of Rhetotab-enabled tournaments, patrons contribute to the growth and sustainability of the debate community. By streamlining tournament management processes and improving the overall experience for participants and stakeholders, Rhetotab plays a crucial role in attracting new talent, fostering skill development, and promoting intellectual discourse within the debate community.

1.8.4. To the University

i. **Academic Excellence:** As one of Uganda's leading institutions of higher learning, Kyambogo University strives for academic excellence in all its endeavors. The successful implementation

of Rhetotab will enhance the university's reputation as a forward-thinking institution committed to leveraging technology for academic and extracurricular advancement.

1.8.5. To the Debaters

i. **Skill Development**: Rhetotab will not only streamline administrative tasks but also provide opportunities for skill development among KYUDS members. By engaging in the design, development, and implementation of the system, students will gain valuable experience in software development, project management, and technological innovation.

1.8.6. To other Debate Societies

i. **Knowledge Contribution**: This study contributes to the broader body of knowledge on debate tournament management practices, particularly in the context of higher education institutions in Uganda. The insights gained from the development and implementation of Rhetotab can inform future research and initiatives aimed at improving debate societies' operations globally.

1.9. Definition of Key Terms

i. **Debate:** a formal discussion on a particular matter in a public meeting or legislative assembly, in which **opposing** arguments are put forward and which usually ends with a vote. (*Oxford English Dictionary*, n.d.)

ii. **Tabulation:** the process of organizing, calculating, and presenting data or results in a structure.

iii. **Tabulation System:** A tabulation system is a software application or tool designed to automate the process of organizing, calculating, and presenting data or results in a structured format, often used in competitions, surveys, or evaluations.

iv. **Debate tournament:** A debate tournament is a competitive event where teams or individuals engage in debates according to specific rules, formats, and topics, often organized into rounds and judged by impartial adjudicators. A debate tournament is a rigorous academic competition. In teams of two, our students argue for and against public policy proposals on issues ranging from science to economics to politics and government. (LAMDL, n.d.)

v. **Pairing:** Pairing refers to the process of matching debate teams or participants against each other for competition, typically based on predetermined criteria such as skill level, experience, and tournament format.

vi. **Web-based Application:** an application program that is stored on a remote server and delivered over the internet through a browser interface. (TechTarget, n.d.)

vii. **Training and Support:** the process of developing skills and competencies for team members, in the context of technology it is often related to honing the skills required to: operate, enhance, maintain, and decommission a technology platform. (Mindfield, n.d.)

1.10. Chapter Summary

This chapter introduced the research proposal, focusing on developing Rhetotab to enhance debate tabulation processes within the Kyambogo University Debate Society (KYUDS). It begins with an overview of the project's background, highlighting the historical evolution of debate societies globally and the specific context of debate culture in Uganda. The problem statement identifies the challenges faced by KYUDS in manual tournament organization, leading to the formulation of research questions and objectives. The scope of the study is defined, covering subject, time, and geographical aspects. The significance of the study is discussed, emphasizing its potential impact on operational efficiency, transparency, cost reduction, skill development, academic excellence, and knowledge contribution. Finally, the chapter concludes with a summary of the subsequent sections, outlining the structure of the research proposal.

CHAPTER TWO

LITERATURE REVIEW

2.0. Introduction

This chapter provides a detailed exploration of the existing literature related to debate societies, tournament management, and technological solutions. It begins by examining the historical evolution of debate societies, followed by an analysis of global perspectives on debate culture. Subsequently, the chapter delves into the specific context of debate in Uganda, highlighting its significance within the national educational landscape. Furthermore, it discusses the challenges commonly encountered in debate tournament management, along with an overview of existing solutions and technologies aimed at addressing these challenges. Finally, the chapter concludes with a summary synthesizing the key insights gleaned from the literature review.

2.1. Historical Evolution of Debate Societies

The history of debate societies dates back to ancient Greece, a time when intellectual pursuits placed great importance on philosophical discourse and argumentation as integral components (Kennedy, 1994). The development of formalized debates can be attributed to the dialectical techniques utilized by renowned philosophers like Socrates, Plato, and Aristotle. Through reasoned discussions aimed at exploring theoretical concepts while challenging existing beliefs.

Over time, structured debate experienced development and underwent variations across diverse cultures and societies. Within medieval Europe, the disputatio style of the scholastic practice served as a crucial educational resource within universities that supported rational inquiry and truth-seeking (Gross & Ray, 2002). Likewise during its Golden Age in Islamic scholarship for instance-debate persisted as an essential method to examine theological concerns while also promoting scientific disciplines like mathematics, astronomy or medicine thus elevating knowledge acquisition.

During the Renaissance period, the revival of classical learning led to a renewed interest in debate as a vehicle for intellectual exchange and advancement. Debating societies began to emerge in European universities and literary circles, providing platforms for scholars, students, and intellectuals to engage in spirited discussions on a wide range of topics (Kennedy, 1994).

The modern debate society, as we understand it today, took shape in the 19th century with the establishment of formal debating clubs and societies in universities and public forums. The formation of organizations such as the Oxford Union and the Cambridge Union in the United Kingdom heralded a new era of competitive debate, characterized by structured formats, rules of engagement, and adherence to parliamentary procedure (Sellnow & Sellnow, 2013).

Over time, debate societies spread beyond the confines of academia to encompass diverse communities and contexts, including schools, civic organizations, and professional associations. Today, debate remains a vibrant and integral part of academic, political, and cultural life, serving as a forum for the exchange of ideas, the testing of arguments, and the cultivation of critical thinking skills among participants of all ages and backgrounds.

2.2. Global Perspectives on Debate Culture

Debate culture is a global phenomenon with diverse manifestations and significant impact across different societies and contexts. From ancient philosophical forums to modern parliamentary debates, the practice of structured argumentation and public discourse has evolved into a vital component of civic engagement, education, and political participation worldwide.

In academic institutions around the globe, debating societies serve as dynamic hubs of intellectual exchange, where students engage in rigorous argumentation, critical analysis, and persuasive communication (Hart & Childers, 2017). Debates provide platforms for students to explore complex issues, challenge prevailing narratives, and develop essential skills such as research, public speaking, and teamwork. Moreover, debating competitions, tournaments, and workshops offer opportunities for cross-cultural interaction, fostering global citizenship and intercultural understanding (Schwartz, 2019).

Beyond academia, debate culture permeates various spheres of public life, including politics, media, and civil society. In parliamentary democracies, legislative debates play a crucial role in shaping public policy, scrutinizing government actions, and representing diverse interests (Le Duc, 2020). Political debates during elections serve as forums for candidates to articulate their visions,

engage with voters, and demonstrate their leadership qualities (Benoit, 2019). Similarly, debates in the media provide platforms for experts, pundits, and citizens to discuss pressing issues, analyze current events, and influence public opinion (Henderson, 2018).

In the context of civil society, debate culture contributes to the promotion of human rights, social justice, and democratic values. Non-governmental organizations (NGOs), advocacy groups, and grassroots movements often use debates as advocacy tools to raise awareness, mobilize support, and hold governments and corporations accountable (Chappell, 2016). Debates on topics such as climate change, gender equality, and economic development galvanize public attention and catalyze social change (Friedman, 2020).

Moreover, debate culture transcends linguistic, cultural, and geographical boundaries, connecting people across continents and civilizations. International debating tournaments, such as the World Universities Debating Championship (WUDC) and the World Schools Debating Championship (WSDC), bring together participants from diverse backgrounds to engage in spirited exchanges of ideas and perspectives (Wilkinson, 2017). These events not only showcase the talent and intellect of debaters but also promote mutual understanding, tolerance, and respect among nations (Menzies, 2018).

While debate culture enjoys widespread popularity and recognition, it also faces challenges and criticisms. Critics argue that debates can sometimes prioritize style over substance, spectacle over substance, and polarization over consensus (Jamieson & Birdsell, 2017). Moreover, debates may reinforce power imbalances, exclude marginalized voices, and perpetuate inequalities if not conducted with sensitivity and inclusivity (Benhabib, 2018). Therefore, efforts to promote ethical debate practices, foster diversity of viewpoints, and ensure equitable participation are essential for sustaining a vibrant and inclusive debate culture worldwide.

2.3. Debate Culture in Uganda

Debate culture in Uganda is deeply entrenched within the fabric of its educational system, societal norms, and political landscape. As a country with a rich tradition of oral communication and

communal deliberation, Uganda has embraced debate as a means of fostering critical thinking, civic engagement, and democratic values.

In the realm of education, debating societies play a pivotal role in shaping the intellectual development and academic prowess of Ugandan students. From primary schools to universities, debating clubs and competitions provide platforms for students to hone their public speaking, research, and argumentation skills (Musisi, 2018). Debating is not just seen as an extracurricular activity but as an integral part of holistic education, promoting confidence, intellectual curiosity, and social awareness among learners.

At the university level, debate societies have emerged as vibrant centers of intellectual exchange and political discourse. Universities across Uganda boast active debating communities that organize intervarsity tournaments like the University Debate Nationals(UDN) by Open Space Centre(OSC), Acfode Interuniversity Debates(New Vision Official, n.d.) and Olympia Invitational, public debates, and workshops on various socio-political issues (Nabwire & Nambafu, 2019). These activities not only enhance students' academic experiences but also contribute to their broader social and civic development.

In the political sphere, debate culture plays a crucial role in shaping public opinion, policy discourse, and democratic governance. Uganda's multiparty political system and vibrant civil society provide fertile ground for debates on governance, human rights, and social justice (Okot, 2019). Political parties, civil society organizations, and media outlets regularly organize debates and panel discussions featuring politicians, activists, and experts, enabling citizens to engage with key issues and hold leaders accountable.

Moreover, Uganda's debate culture is characterized by its inclusivity and diversity, reflecting the country's multicultural heritage and commitment to unity in diversity. Debates in Uganda often feature participants from different ethnic, religious, and socio-economic backgrounds, fostering cross-cultural understanding and social cohesion (Kyagulanyi & Mukisa, 2020). This inclusivity is further reinforced by initiatives to promote gender equity and youth participation in debates, ensuring that diverse voices are heard and valued.

Despite its many strengths, Uganda's debate culture also faces challenges, including limited resources, institutional support, and training opportunities. Many schools and universities lack adequate funding and infrastructure for debating activities, hindering the growth and sustainability of debating societies (Makumbi & Kaggwa, 2017). Additionally, there is a need for greater collaboration between academia, government, and civil society to mainstream debate education and advocacy in national development agendas.

2.4. Types / Structures of Debates

2.4.1. Parliamentary Debate

Parliamentary style debate, colloquially oftentimes just Parliamentary debate, is a formal framework for debate used in debating societies, academic debate events and competitive debate. It has its roots in parliamentary procedure and develops differently in different countries as a result. (*Parliamentary Style Debate*, n.d.) The parliamentary debate purpose s to support or attack potential legislation. Despite its name, the parliamentary debate format is used in the United States at various levels of government.(*Types of Debates | Educational Research Techniques*, n.d.)

2.4.2. Public Speaking

Also called **oratory**, is the act or skill of delivering speeches on a subject before a live audience(Harper, n.d.). The public speaking format of debate is structured to facilitate discussion, argumentation, and persuasion on a given topic. It begins with introductions where speakers outline their positions. Opening statements follow, where speakers present their main arguments concisely. Rebuttals allow speakers to address opposing arguments and reinforce their own positions. Cross-examination may occur, enabling direct engagement between speakers. Closing statements summarize key points and emphasize positions. Audience engagement, like Q&A sessions, encourages participation and diverse perspectives. Overall, debate fosters critical thinking, effective communication, and idea exchange in an engaging setting.

2.4.3. Policy Debate

Team policy debates involve two teams, each with two debaters. These are the most commonly used types of debates in high school and middle school. This debate consists of an affirmative team that supports a proposition, and a negative team that argues against it. The primary objective of team policy debate is to present a huge amount of evidence quickly and coherently.(Cathy, n.d.)

2.5. Challenges in Debate Tournament Management

Despite the many benefits and opportunities afforded by debate tournaments, they also present various challenges in terms of organization, logistics, and administration. These challenges can hinder the smooth execution of tournaments and impact the overall experience for participants, judges, and organizers. Some of the key challenges in debate tournament management include:

i. **Logistical Complexity:** Organizing a debate tournament involves coordinating numerous logistical aspects, including venue booking, scheduling, participant registration, accommodation, transportation, and catering. Managing these logistical details can be daunting, particularly for large-scale tournaments with multiple teams and venues.

ii. **Scoring and Tabulation:** The tabulation of debate scores and rankings can be complex, especially in formats that involve multiple rounds and diverse judging panels. Manual tabulation methods are time-consuming and error-prone, leading to delays and inaccuracies in determining winners and rankings.

iii. **Judging Quality and Availability**: Ensuring the availability of qualified judges who are impartial, knowledgeable, and fair is a common challenge in debate tournaments. Recruiting and training judges, particularly for niche or specialized formats, can be difficult, leading to disparities in judging quality and consistency.

iv. **Technology Integration**: While technology offers opportunities to streamline tournament management processes, integrating technological solutions effectively can be challenging. Issues such as software compatibility, user training, data security, and technical support need to be addressed to maximize the benefits of technology in debate tournament management.

v. **Communication and Coordination:** Effective communication and coordination among tournament organizers, participants, judges, and volunteers are essential for the smooth operation of debate tournaments. Poor communication channels, unclear instructions, and inadequate coordination can lead to confusion, frustration, and logistical problems.

vi. **Resource Constraints:** Limited financial, human, and infrastructural resources pose significant challenges for debate tournament organizers, especially in resource-constrained settings. Securing funding, recruiting volunteers, and accessing suitable venues and equipment can be major hurdles for organizing successful tournaments.

vii. **Inclusivity and Diversity:** Ensuring inclusivity and diversity in debate tournaments, including representation from various demographics, backgrounds, and perspectives, is a crucial but challenging endeavor. Addressing barriers to participation, promoting diversity among judges and participants, and fostering an inclusive debate culture require deliberate efforts and strategies.

viii. **Sustainability:** Ensuring the long-term sustainability of debate tournaments, both financially and operationally, is a persistent challenge for organizers. Developing sustainable funding models, building institutional support, and cultivating a strong volunteer base are essential for the continued success of debate tournaments over time.

Addressing these challenges requires proactive planning, effective communication, collaboration, and innovation in tournament management practices. By recognizing and responding to the unique demands and complexities of debate tournaments, organizers can enhance the overall quality, fairness, and inclusivity of these events, ensuring a positive experience for all stakeholders involved.

2.6. Existing Solutions and Technologies

Existing solutions and technologies aimed at addressing challenges in debate tournament management encompass a variety of software applications, online platforms, and organizational

strategies tailored to the needs of debate societies and tournament organizers. Some prominent examples include:

i. **Tabroom.com**: Tabroom.com is a widely used online platform that provides comprehensive tools for debate tournament management. It offers features for registration, pairing, tabulation, and result dissemination. Tabroom.com is known for its user-friendly interface and robust functionality, making it a popular choice among debate organizers.(*Tabroom.Com*, n.d.)

ii. **ForensicsTournament.net**: ForensicsTournament.net is an online registration and management platform tailored specifically for forensic competitions, including debate tournaments(*ForensicsTournament.Net*, n.d.). It allows organizers to create custom registration forms, manage participant data, and communicate tournament details effectively. ForensicsTournament.net simplifies administrative tasks and enhances participant engagement.

iii. **Open-source Tabulation Systems**: Open-source tabulation systems, such as Tabbycat and DebateKeeper, provide customizable solutions for debate tournament management. These systems allow organizations to modify the software according to their specific requirements and preferences, fostering innovation and flexibility in tournament organization.

2.7. Research Gaps in the Existing Solutions and Technologies

Research gaps in existing solutions and technologies for debate tournament management include:

i. **Limited Integration of Emerging Technologies:** Many existing solutions may not fully leverage emerging technologies such as artificial intelligence and machine learning to automate tasks or enhance decision-making processes.
ii. **Accessibility and Inclusivity:** Some platforms may lack features to ensure accessibility for individuals with disabilities or may not adequately address the needs of participants from diverse linguistic and cultural backgrounds.

iii. **Data Security and Privacy**: Concerns related to data security and privacy may arise, particularly with platforms that handle sensitive participant information. Ensuring robust security measures and compliance with privacy regulations is essential.

iv. **Comprehensive Evaluation of Effectiveness**: While solutions may claim to improve efficiency and enhance the tournament experience, there may be a lack of comprehensive evaluations assessing their actual impact, usability, and user satisfaction.

v. **Scalability and Adaptability:** Certain solutions may face limitations in scalability or may not easily adapt to changes in tournament formats or organizational requirements.

vi. **Support for Hybrid and Virtual Tournaments:** With the increasing prevalence of hybrid and virtual debate tournaments, there is a need for solutions that effectively support remote participation, virtual adjudication, and online collaboration.

2.8. Technologies to be used in the Development of Rhetotab

2.8.1. Programming Frameworks

i. Php Laravel

Laravel is a popular PHP framework known for its elegant syntax and developer-friendly features (Purbo, 2021). In the development of Rhetotab, Laravel will serve as the primary backend framework. It provides robust features such as routing, ORM (Object-Relational Mapping), authentication, and templating, allowing for rapid development of web applications. Laravel's rich ecosystem of packages and built-in functionalities will streamline the development process and ensure scalability and maintainability.

ii. Tailwind CSS

Tailwind CSS is a utility-first CSS framework that provides a set of pre-designed utility classes to style web elements. In the development of Rhetotab's frontend, Tailwind CSS will be utilized for designing responsive and visually appealing user interfaces. Its modular approach allows for rapid prototyping and easy customization, enabling developers to create a consistent and modern UI design across the application.

iii. Livewire

Livewire is a full-stack framework for Laravel that enables developers to build interactive web interfaces using Laravel's Blade templating engine and reactive components (Frisbie, 2019). In Rhetotab, Livewire will be leveraged for dynamic UI updates, form handling, and real-time interactions without the need for writing JavaScript code. Livewire simplifies frontend development by seamlessly integrating with Laravel's backend, resulting in faster development cycles and improved code maintainability.

2.8.2. Database Management System

i. My SQL Server

MySQL Server is a popular open-source relational database management system (RDBMS) known for its reliability, performance, and scalability. In the development of Rhetotab, MySQL Server will be used as the database host, storing and managing data related to users, debates, tournament results, and other application entities. MySQL's robust features, including ACID compliance, indexing, and replication, ensure efficient data storage and retrieval, supporting the application's requirements for data integrity and scalability.

2.8.3. Developer Tools

i. VS Code

Visual Studio Code (VS Code) is a lightweight yet powerful source code editor developed by Microsoft. In the development of Rhetotab, VS Code will be the preferred text editor for writing, editing, and debugging code. Its rich set of features, including syntax highlighting, code completion, and integrated version control, enhances productivity and facilitates collaboration among developers working on the project.

ii. GitHub

GitHub is a web-based platform that hosts Git repositories and provides collaboration features for software development projects. In the development of Rhetotab, GitHub will serve as the central repository for storing the project's source code, documentation, and related assets. GitHub's features, such as pull requests, issue tracking, and project boards, facilitate collaboration among developers, code review processes, and project management activities. Additionally, GitHub's

integration with continuous integration (CI) tools enables automated testing and deployment workflows, ensuring code quality and project scalability.

iii. My SQL Workbench

MySQL Workbench is a visual database design tool provided by MySQL. It allows developers to design, model, and visualize databases using Entity-Relationship (ER) diagrams. In Rhetotab's development, MySQL Workbench will be used to design the database schema, define relationships between database tables, and optimize database performance. Its intuitive interface and powerful modeling capabilities streamline the database design process, ensuring efficient data management and schema consistency.

2.9. Chapter Summary

The literature review has provided valuable insights into the historical evolution of debate societies, global perspectives on debate culture, the national context of debate culture in Uganda, challenges in debate tournament management, and existing solutions and technologies.

Firstly, the historical evolution of debate societies traces back to ancient Greece, highlighting the rich tradition of philosophical discourse and argumentation that has shaped modern debate formats practiced in academic institutions worldwide. This historical perspective underscores the enduring significance of debate as a platform for intellectual exchange and skill development.

Secondly, global perspectives on debate culture emphasize the role of debate societies as hubs for fostering critical thinking, communication skills, and democratic engagement among students across diverse cultures and contexts. Debate societies serve as vital components of higher education, contributing to academic excellence and intellectual development on a global scale.

Thirdly, the national context of debate culture in Uganda reflects a growing recognition of debate as an important component of university education, promoting critical inquiry and democratic participation within the educational system. Debate societies, such as the Kyambogo University Debate Society (KYUDS), play a pivotal role in shaping the academic and intellectual landscape of Uganda, providing platforms for students to develop public speaking skills and engage in rigorous intellectual discourse.

Fourthly, challenges in debate tournament management, including manual processes, lack of centralized systems, and resource constraints, pose significant barriers to the efficiency and

effectiveness of debate societies' operations. These challenges undermine the integrity of tournament results, impede skill development among participants, and hinder the growth of debate communities.

Lastly, existing solutions and technologies offer promising avenues for addressing the challenges in debate tournament management, ranging from debate tabulation software and online registration systems to communication platforms and mobile applications (Papadopoulos et al., 2017). These solutions streamline administrative processes, enhance communication and collaboration, and improve accessibility and transparency within the debate community.

CHAPTER THREE

METHODOLOGY

3.1. Introduction

The methodology for the proposed research project will involve the design and development of a Debate Tournament Management System, as well as a pilot test with a group of volunteers to evaluate the effectiveness of the web application. This section outlines the research design, sample and data collection methods, and data analysis plan for the proposed project.

3.2. Research Design

The quantitative research approach adopted for the development of Rhetotab entails gathering numerical data and analyzing it statistically to draw objective conclusions. This approach emphasizes the use of structured methods and standardized instruments for data collection, enabling researchers to quantify variables and establish relationships between them(Thakur, 2021). In the context of Rhetotab's development, this quantitative method will be instrumental in systematically evaluating various aspects of the project, such as user feedback, system performance, and adoption rates.

3.3. Data Collection Methods

Data collection methods are techniques and procedures for gathering information for research purposes. (QuestionPro, n.d.)

3.3.1 Qualitative Methods

Qualitative data collection methods offer a nuanced approach to understanding the intricacies of human experiences, perceptions, and perspectives. such as literature review, involving the systematic gathering and analysis of existing research literature related to the research topic. This review encompasses academic journals, books, conference proceedings, and other relevant sources, providing valuable insights into existing knowledge, research gaps, and theoretical frameworks pertinent to the study. Additionally, online surveys are also utilized as a quantitative data collection method, facilitated through web-based platforms. Structured questionnaires are designed and distributed to a targeted sample of participants via email, social media, or survey websites.

3.3.2 Quantitative Data Collection

Quantitative data collection methods, such as questionnaires, involves the administration of standardized surveys to gather numerical data from participants. Researchers design structured questionnaires with closed-ended questions and predefined response options, which can be distributed through various formats including paper-based forms, online surveys, or face-to-face interviews. Questionnaires efficiently collect data on attitudes, behaviors, and preferences. In contrast, qualitative data collection methods like interviews entail one-on-one interactions between researchers and participants.

3.3.3 Data Collection method to be used

Therefore, this research will involve the use Quantitative data collection because Quantitative data allows easy comparison between different groups or conditions, facilitating the evaluation of interventions, policies, or treatments after distributing some questionnaires to respondents.

3.4. Data Collection Tools

3.4.1. Literature Reviews

Literature reviews involve exploring various scholarly sources, such as articles, case studies, and industry reports, to uncover insights and requirements within the field of healthcare management systems. The literature review process will inform the Rhetotab development team about proven functionalities, successful approaches, and industry trends in debate management systems. By synthesizing information from existing literature, the team can identify requirements and best practices that will guide the design and development of Rhetotab. Additionally, the literature review will help anticipate challenges and incorporate cutting-edge innovations into the system, ensuring that Rhetotab is both responsive to current needs and forward-looking.

3.4.2. Surveys

Surveys involve deploying structured questionnaires online to gather quantitative data on user satisfaction, system usability, and overall performance. Online surveys will be used to collect quantitative data from members of KYUDS and potential users of Rhetotab. Structured survey questions will be designed to extract insights into specific aspects of the system, while open-ended

questions will allow participants to provide detailed feedback. The survey results will provide valuable input for refining Rhetotab's functionalities, identifying areas for improvement, and gauging user satisfaction levels.

3.4.3. Observation

Observation is a research method that involves observing subjects and phenomena in their natural environments to gain insights into their behaviors and decision-making processes. As the developer of Rhetotab, I will observe debate tournaments and tabulation processes to understand the workflows, pain points, and requirements of organizers and participants. By witnessing firsthand how tournaments are managed and tabulated, I can identify inefficiencies, areas for optimization, and opportunities to streamline processes with Rhetotab. Observational data will provide valuable insights into the practical needs and challenges faced by debate organizers, guiding the development of user-friendly features and functionalities.

3.4.4. Questionnaires

Questionnaires involve presenting participants with structured questions to gather data on their attitudes, opinions, behaviors, or demographics. Questionnaires will be designed to gather feedback from debate organizers, judges, and participants on their preferences, challenges, and requirements for debate tournament management. Structured questions will probe into specific aspects of Rhetotab's usability, functionality, and effectiveness in streamlining tournament workflows. Open-ended questions will allow participants to provide detailed feedback and suggestions for improvement. The questionnaire responses will be used to iteratively refine Rhetotab, ensuring it meets the unique needs and expectations of the debate community.

3.5. System Design and Development Methods

3.5.1. Iterative Waterfall Model:

According to GeeksforGeeks, (2024), the Iterative Waterfall Model is a software development approach that combines the sequential steps of the traditional Waterfall Model with the flexibility of iterative design. It allows for improvements and changes to be made at each stage of the development process, instead of waiting until the end of the project. The iterative waterfall model

provides feedback paths from every phase to its preceding phases, which is the main difference from the classical waterfall model.

3.5.2. Stages Involved in Iterative Waterfall Model

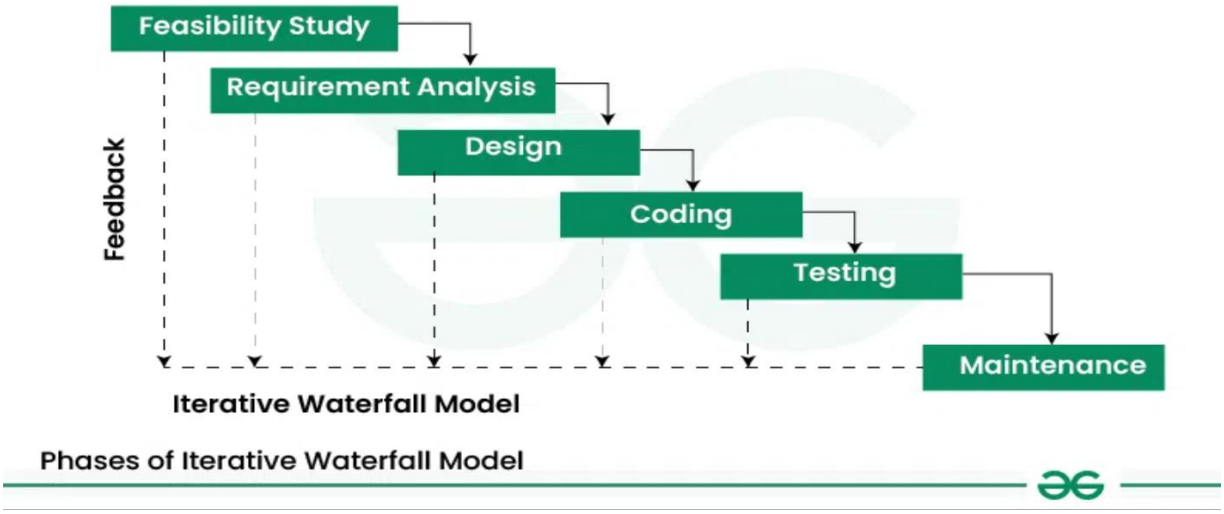

Figure 1: illustration of the stages involved in the iterative waterfall model SDLC (source: geeksforgeeks,org)

i. **Requirements Gathering**: In this stage, project requirements are collected and documented in detail. This includes gathering information from stakeholders, analyzing user needs, and defining project scope, objectives, and constraints (GeeksforGeeks, 2024).

ii. **System Design**: Once the requirements are gathered, the system design phase begins. This involves creating high-level and detailed designs for the software system, including architecture, database design, user interface design, and other technical specifications (GeeksforGeeks, 2024).

iii. **Implementation**: In the implementation stage, the actual coding of the software system takes place based on the design specifications. Programmers write code according to the requirements and design documents prepared in the previous stages (GeeksforGeeks, 2024).

iv. **Testing**: After the implementation phase, thorough testing of the software is performed to identify and fix defects or bugs. Testing includes various types such as unit testing, integration testing, system testing, and acceptance testing to ensure that the software meets the specified requirements and functions correctly (GeeksforGeeks, 2024).

v. **Deployment**: Once the software is tested and validated, it is deployed or released to users or customers. Deployment involves installing the software on the target environment and making it accessible to end-users (GeeksforGeeks, 2024).

vi. **Feedback and Evaluation**: After deployment, feedback from users and stakeholders is collected to evaluate the software's performance, usability, and satisfaction level. This feedback is used to identify areas for improvement and to make necessary adjustments or enhancements to the software (GeeksforGeeks, 2024).

vii. **Iterative Refinement**: Based on the feedback received, the software undergoes iterative refinement, where changes, improvements, or new features are implemented. This iterative process continues until the software meets the desired quality standards and user expectations (GeeksforGeeks, 2024).

viii. **Maintenance**: Once the software is in use, ongoing maintenance and support activities are performed to address any issues, update features, and ensure its smooth operation over time (GeeksforGeeks, 2024).

3.5.3. Why use Iterative Waterfall Model?

The main reason behind using iterative waterfall model is feedback path (GeeksforGeeks, 2024). In the classical waterfall model, there are no feedback paths, so there is no mechanism for error correction. But in the iterative waterfall model feedback path from one phase to its preceding phase allows correcting the errors that are committed and these changes are reflected in the later phases.

3.6. System Implementation

3.6.1. Pilot Testing

i. **Limited Rollout:** Conducting a limited rollout of "Rhetotab" to a subset of the debate society for pilot testing.

ii. **Feedback and Revisions:** Gathering feedback, identifying issues, and making necessary revisions for system improvement.

3.6.2. Full Deployment

i. **Comprehensive Rollout:** Implementing "Rhetotab" for full-scale use by the Kyambogo University Debate Society.

ii. **Training Sessions:** Conducting training sessions to familiarize users with the system and its functionalities.

3.7. Testing and Evaluation Methods

3.7.1. User Experience Evaluation

i. **Surveys and Interviews:** Collecting user feedback on the system's usability, interface, and overall experience.

ii. **User Analytics:** Analyzing system usage patterns and user interactions to assess engagement.

3.7.2. System Performance Evaluation

i. **Scalability Testing:** Assessing the system's ability to handle increased user loads and data volumes.

ii. **Security Audits**: Conducting security audits to identify and address potential vulnerabilities using PHP Unit.

3.8. Data Analysis Methods

3.8.1 Qualitative Analysis

In the context of Rhetotab, qualitative analysis involves examining responses from open-ended survey questions and other qualitative data collection tools. This method employs thematic analysis techniques to systematically identify recurring themes, patterns, and insights pertaining to user experiences with Rhetotab. Through coding and categorization of qualitative data, we aim to uncover valuable insights into user perceptions, challenges, and preferences related to the functionality and usability of Rhetotab in debate tournament management and tabulation.

3.8.2 Quantitative Analysis

Quantitative analysis of data collected through questionnaires in Rhetotab focuses on utilizing statistical techniques to derive meaningful insights. This analysis encompasses descriptive statistics, frequency distributions, and correlation analysis to explore various aspects of Rhetotab's performance and user satisfaction levels. By employing statistical software tools like SPSS or Excel, we aim to quantify user perceptions, identify usage patterns, and examine correlations between different variables. The results of quantitative analysis will inform decision-making

processes and drive iterative improvements to enhance Rhetotab's effectiveness and user experience in debate tournament management.

3.9. Ethical Considerations

i. Ensuring informed consent from all participants.
ii. Safeguarding participant anonymity and confidentiality.
iii. Adhering to ethical guidelines in system development, particularly in handling sensitive user data.

CHAPTER FOUR

PRESENTATION, ANALYSIS, INTERPRETATION AND DISCUSION OF FINDINGS

4.1. Introduction

This chapter delves into the core of the research findings derived from the data collected through the questionnaire distributed to members of the Kyambogo University Debate Society (KYUDS) and the Uganda National Students Association (UNSA). The aim is to evaluate the current practices, challenges, and technological engagement in managing debate tournaments. These insights will guide the development of a more efficient Debate Tournament Management System (DTMS). The chapter is organized into sections that present the data, analyze the findings, interpret the implications, and discuss how these findings can influence the proposed system's design and functionality.

4.2. Demographic Characteristic

4.2.1. Gender Distribution

The gender breakdown was fairly balanced, with a slight predominance of male participants.

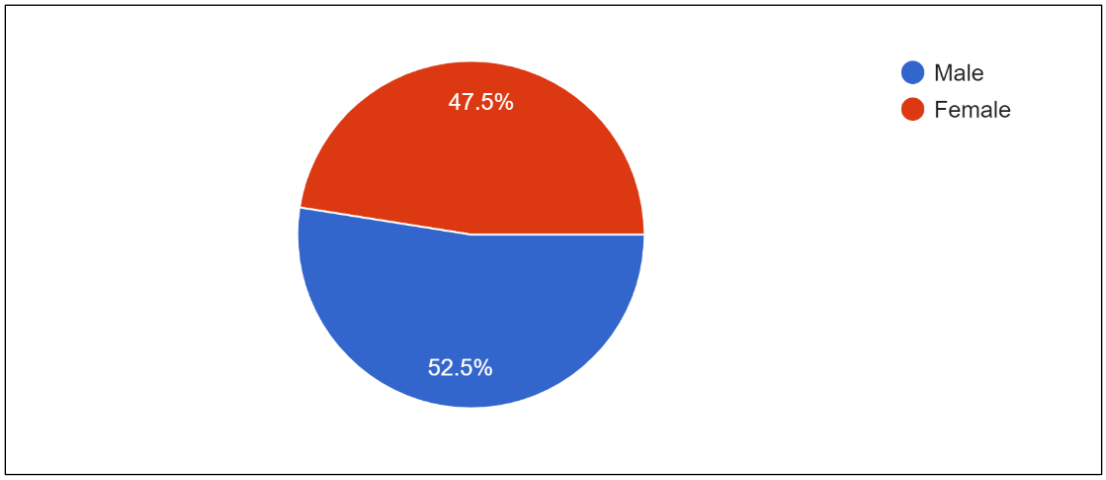

Figure 2: Gender distribution pie-chart

4.2.2. Organization

The research was sampled in multiple organization that have attended and organized debate tournaments with KYUDS. Most of respondents were from within Kyambogo University Debate Society.

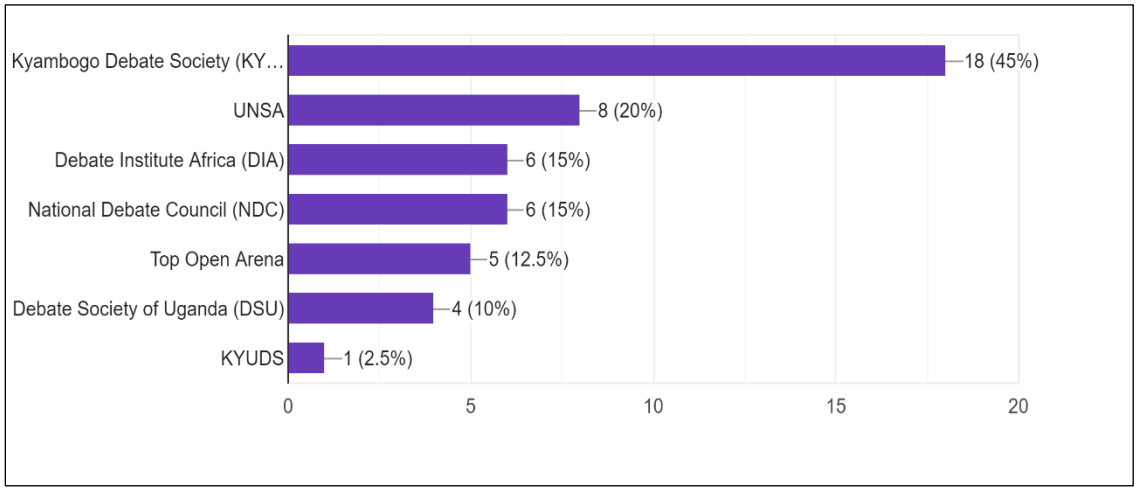

Figure 3: Bar chart showing organizations selected by the respondents

4.2.3. Roles in Debate Society

Most respondents identified as debaters, followed by support staff and organizers.

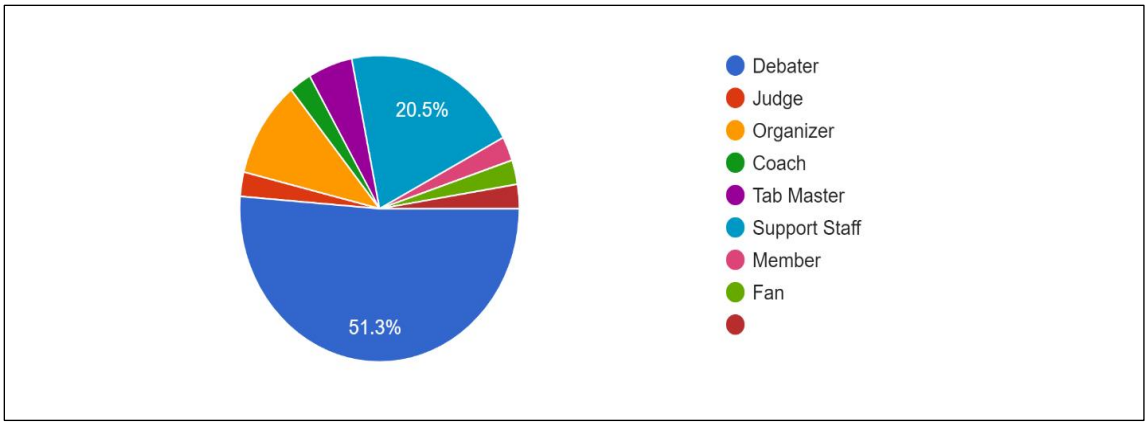

Figure 4: respondent's roles in debate socities

4.2.4. Length of Involvement

The majority had been involved in debate activities for 6 months - 1 year, suggesting a moderate level of experience.

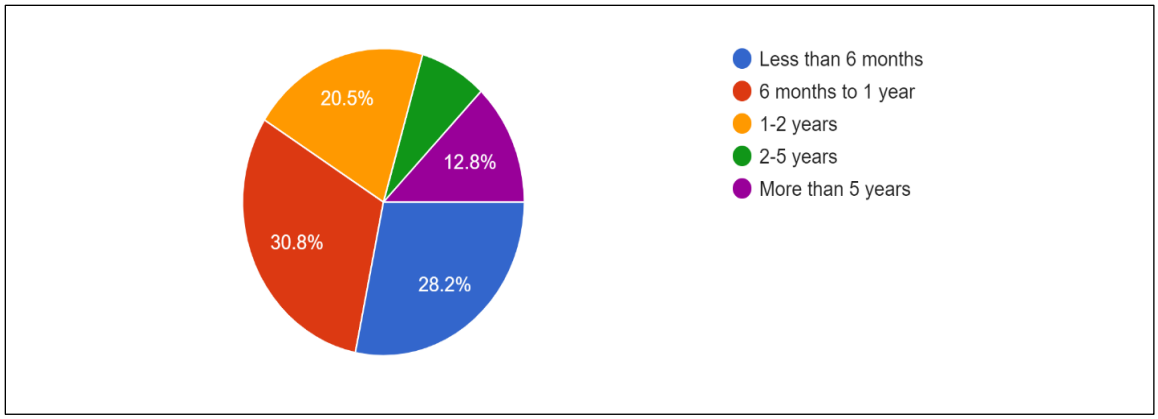

Figure 5: respondents' length of involvement in debate circuits

Most of the respondents agrees that they have had involvement in the organization of debate tournaments. This builds more trust in their involvement in the research.

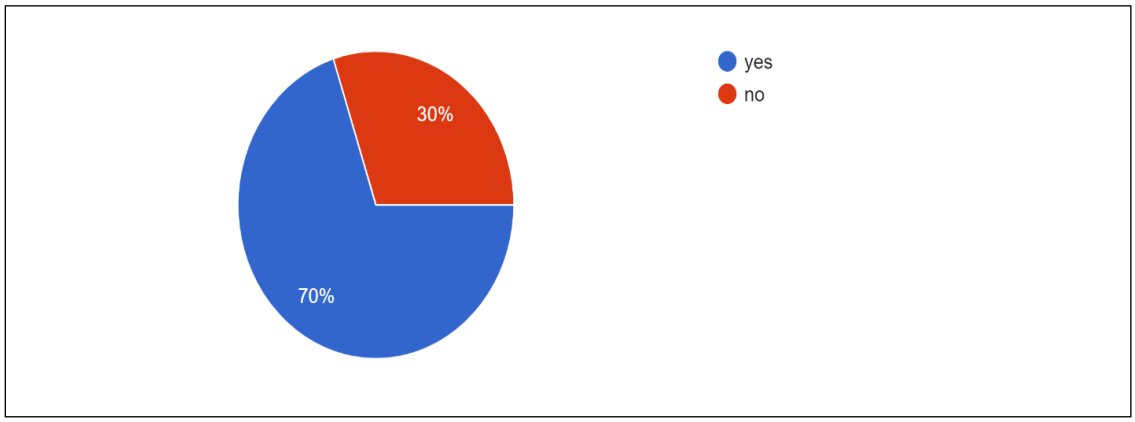

Figure 6: Distribution of whether or not the respondent has involved in tournament organization

Although some respondents did not share their exact level of experience in debate tournament experience, 54.8% of those that agreed indicate 1.2 years. This is followed by 3-5 years with 22.6%, more than 10 years with 12.9% and lastly 6-10 years with 9.7%.

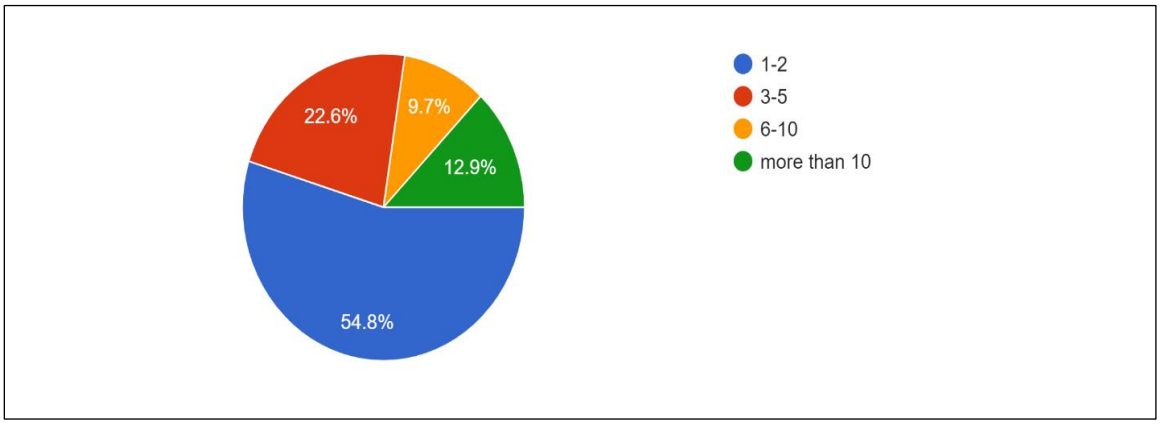

Figure 7: number of tournaments respondents involved as organizers

4.2.5. Familiarity with use of technology for managing and participating in events and tournaments.

48.7% of the respondents agreed that they were familiar with similar technologies. However, some were not sure about their familiarity with the technologies. Few of the respondents were not very familiar.

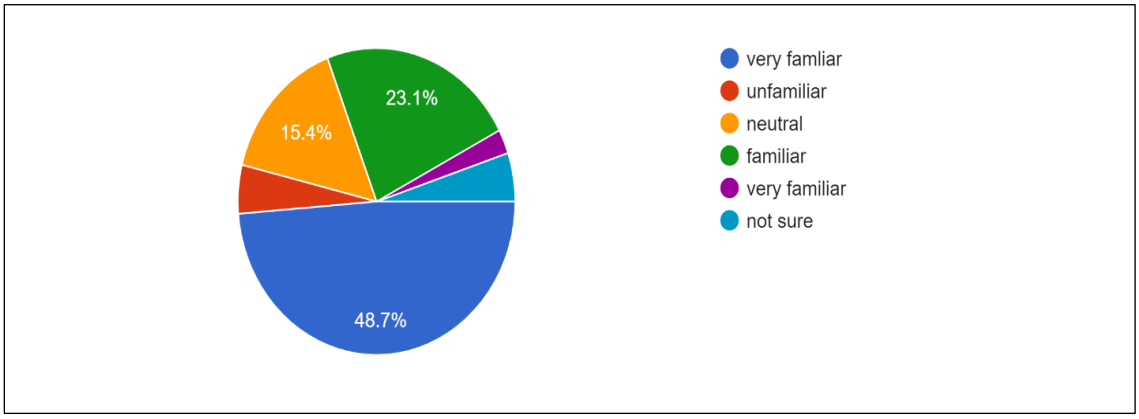

Figure 8:4.2.5. Familiarity with use of technology for managing and participating in events and tournaments

4.3. Identifying Challenges in the current Debate Management Systems used by KYUDS

4.3.1. Tournament Organization

Most respondents agreed that the manual process is efficient however with some challenges. The major challenge in the organization of tournaments turned out to be time-consuming. This was followed by lack of clear communication and difficulty in tabulation and scoring. Few of the respondents agreed that there are errors in registration and tabulation.

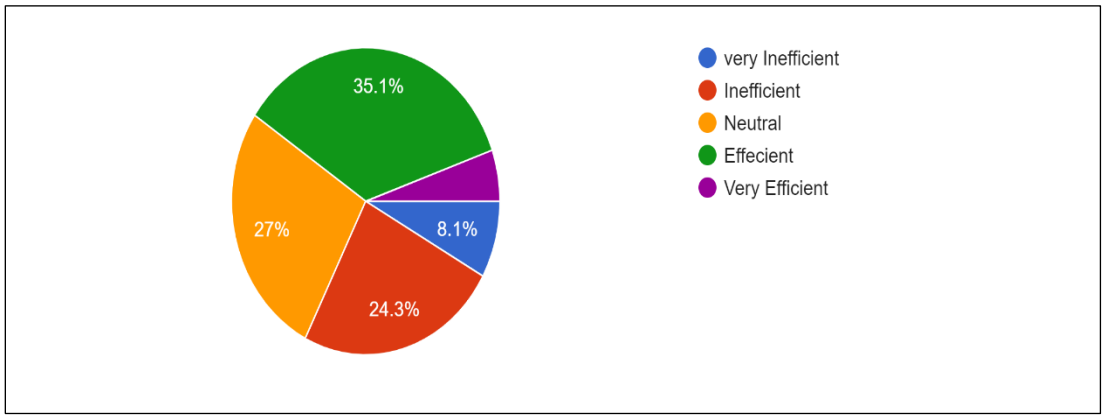

Figure 9: rating of manual/current system

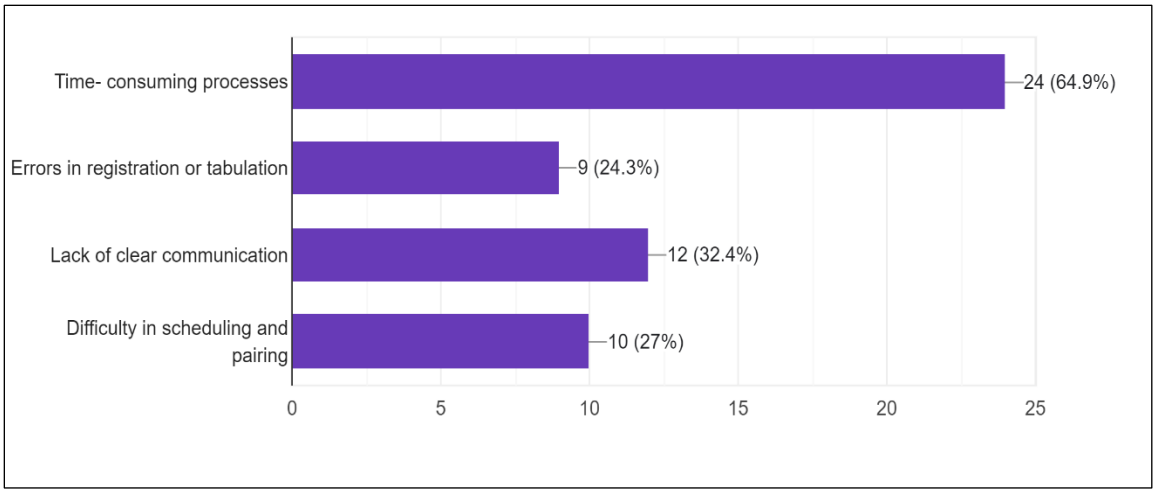

Figure 10: main challenges involved in current system

4.3.2. Registration and Scheduling

Most of the respondents appreciated the currently used system however other did not. Common issues with the processes involved in registration and scheduling were slow and time-consuming, a lot of paper work involved, delays in confirmations emails, long processes, inadequate registration equipment and lack of clear information.

44.7% of the respondent indicate that they sometimes experience errors or delays in the scheduling and pairing of the debate rounds.

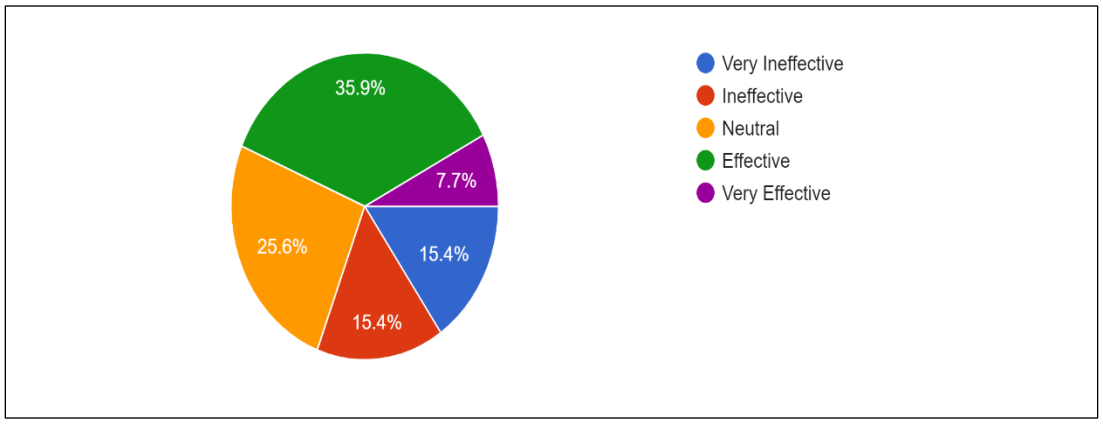

Figure 11:effectiveness of the current system in registration

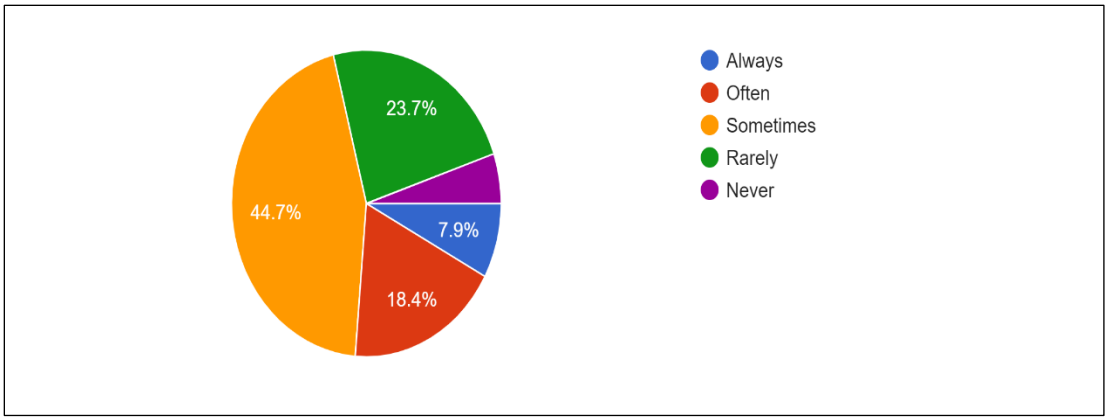

Figure 12: frequency distribution of occurrence of delays

4.3.3. Scoring and Tabulation

29.7% of the respondent find the current tabulation and scoring systems reliable. This was most of them. However, 13.5% of the respondents and 16.2% find the processes unreliable. 27% find the processes neutral. The most prominent challenges identified in these processes were errors in data entry, lack of transparency, delays in announcement of results and inconsistency in scoring.

1 of the respondents continued to define that the existing system especially one used in public speech is not flexible.

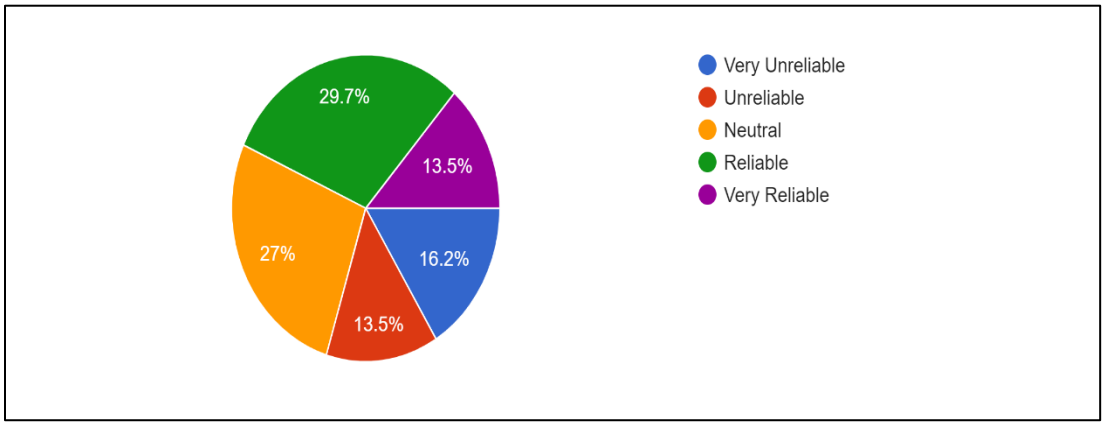

Figure 13: reliability distribution for the current system

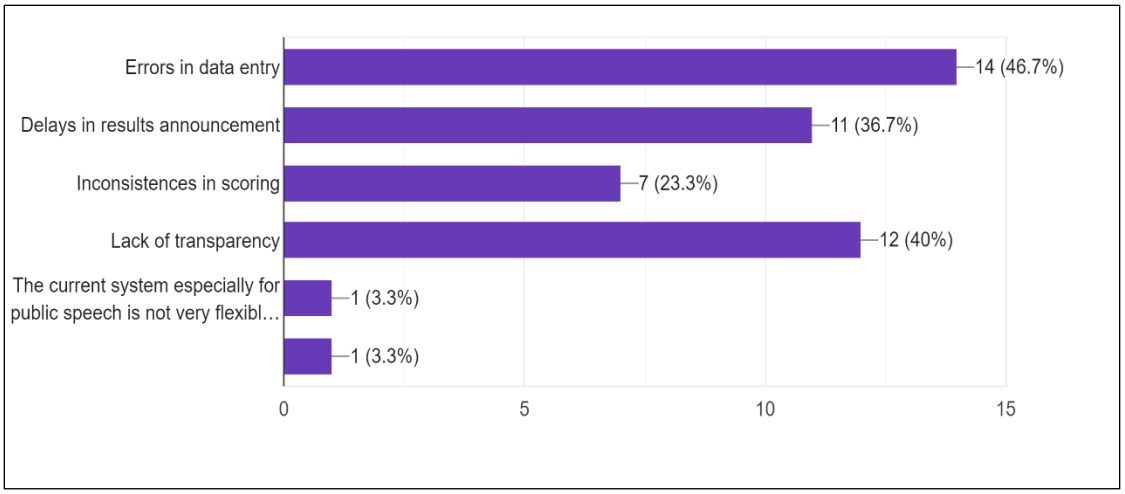

Figure 14: key challenges in tabulation using the current system

4.3.4. Communication and Coordination

Most of the respondent agreed that the currently used means of communication are effective however with some challenges. The biggest challenge was found to be delayed communication.

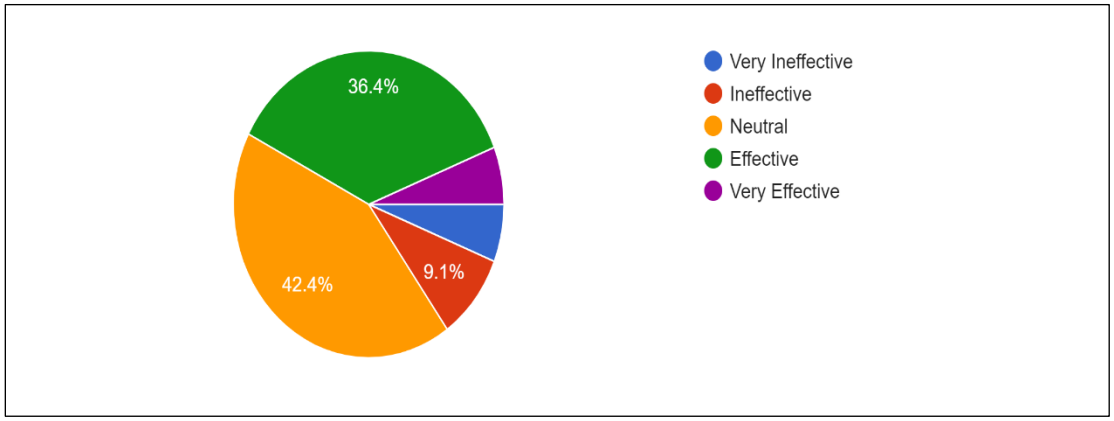

Figure 15: effectiveness of currently used communication tools

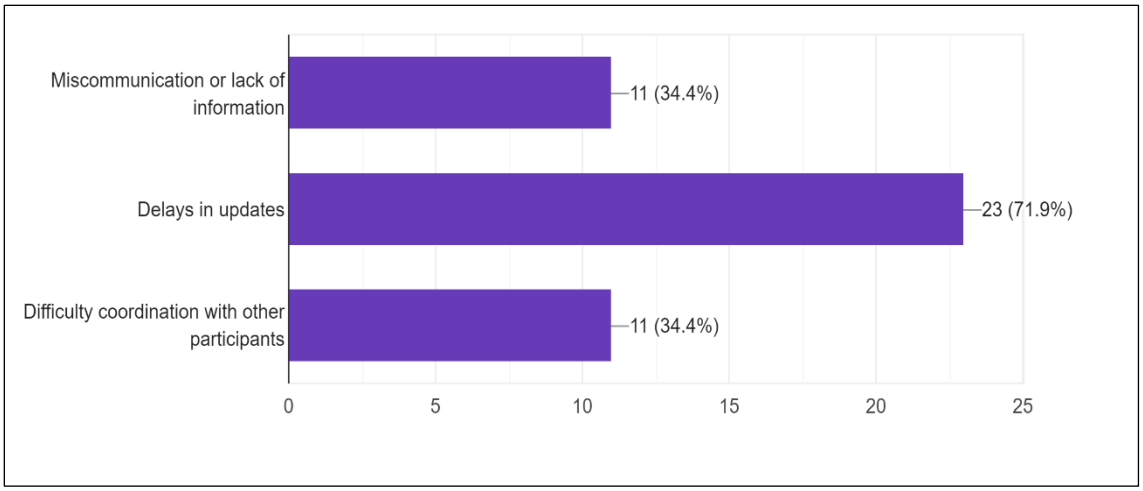

Figure 16: Major communication issues in the current system

4.4. Suggested Solutions to the Challenges involved in the currently used system.

4.4.1. System Requirements

A list of suggest system requirements was presented to the respondents and most them (45.5%) agreed with the automated registration and scheduling features, 36.4% agreed with the real-time scoring and tabulation. Centralized communication platform and easy access to tournament updates and results.

Most respondents also agreed that is very important for Rhetotab, the proposed system, to integrate with already existing system used by KYUDS.

Some respondents further requested for features like a possibility for judges to judges to enter the score into the system than rather sending the to the tab master and having different grading systems such as use of totals, averages and standard deviations to differentiate the participants with similar scores.

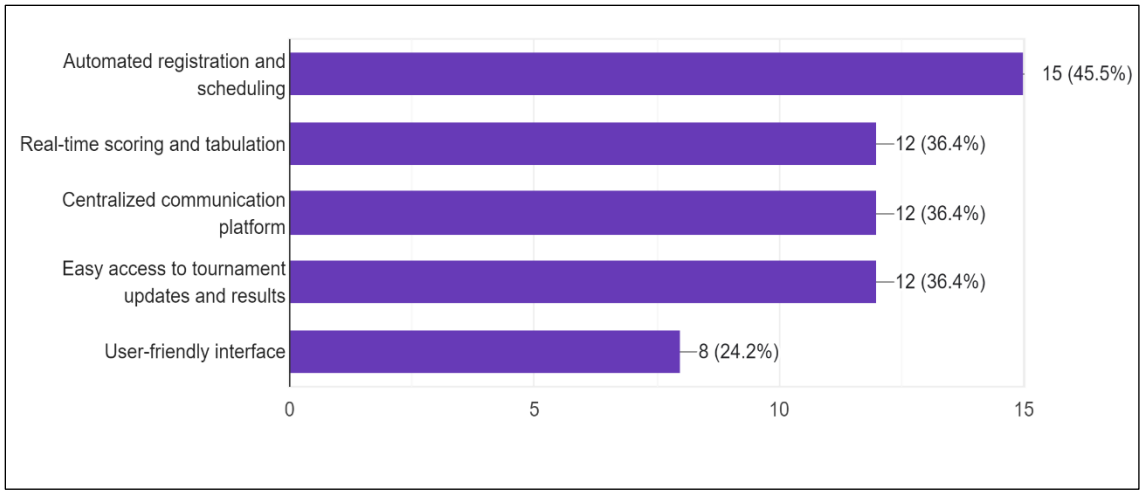

Figure 17: key suggested system features

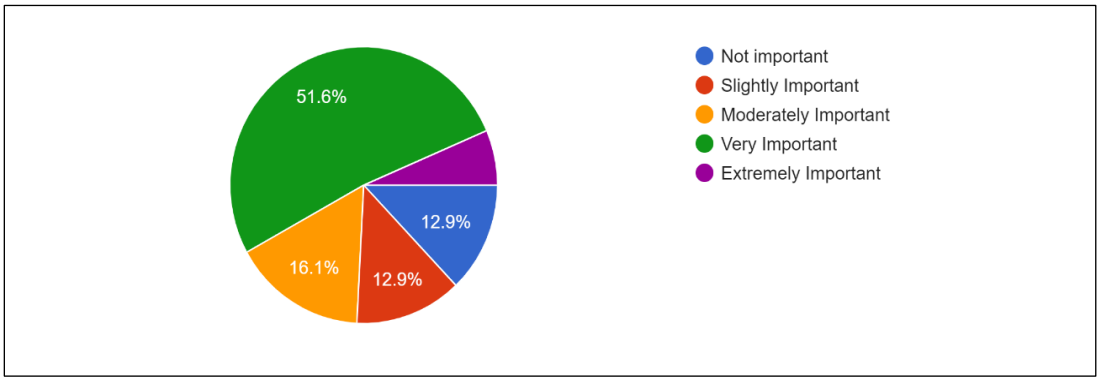

Figure 18: importance of integrating the new system with other existing software

4.4.2. Design Preferences

Questions targeting design preferences were included in the questionnaire. 61.3% of the respondents voted the user-friendly interface. 35.5% want an interface that is customizable to the user needs. 29% of the respondents voted the simple and intuitive interface. However, this got a tie with the feature rich with advanced options design.

56.7% of the respondents agreed with an interface that accepts fully automated registration with predefined criteria. However, 40% prefer a hybrid registration interface.

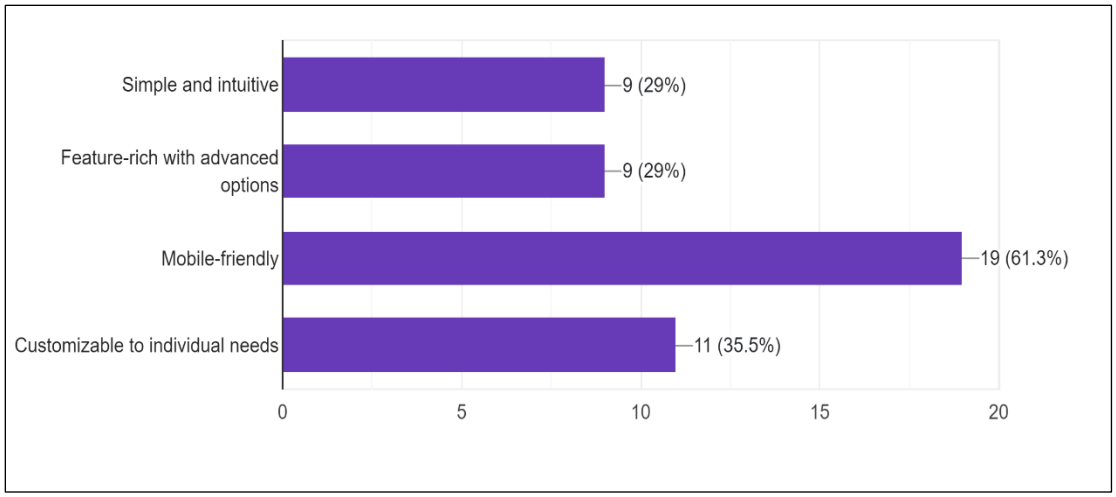

Figure 19: Responses on desired user interface

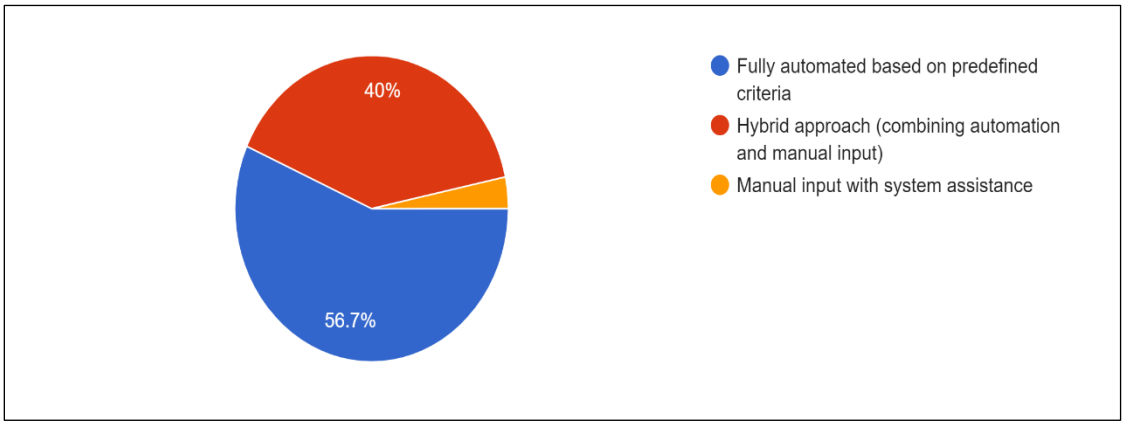

Figure 20: respondents' thought on handling registration and scheduling

4.4.3. Scoring and Tabulation

59.4% of the respondents agreed with proposed real time tabulation. 31.3% respondents voted integration with other adjudicator scoring apps. 37.5% of the respondents voted for manual input with automated calculations.

Most of the respondent said it is very important for the software to provide detailed reports and analytics on tournament performance.

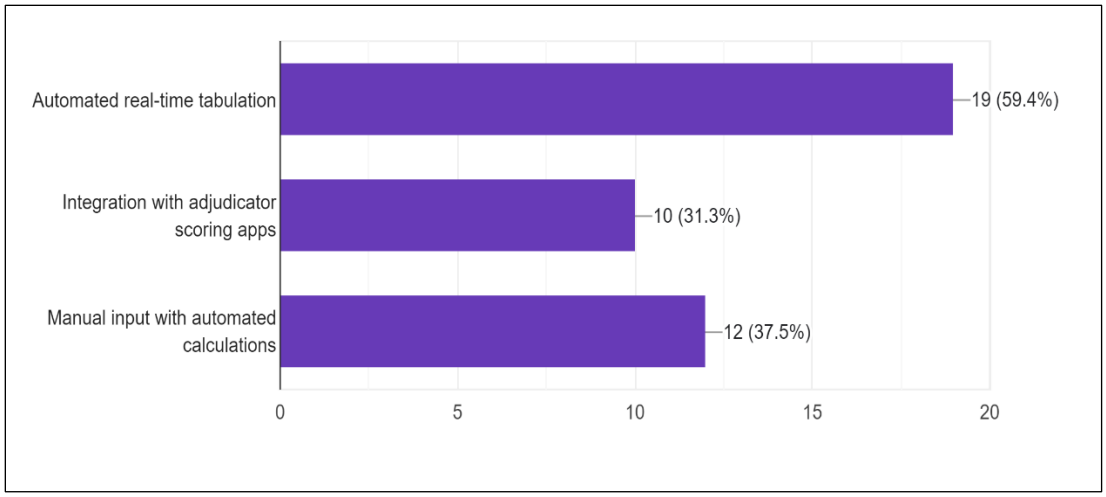

Figure 21: Methods of scoring and tabulation

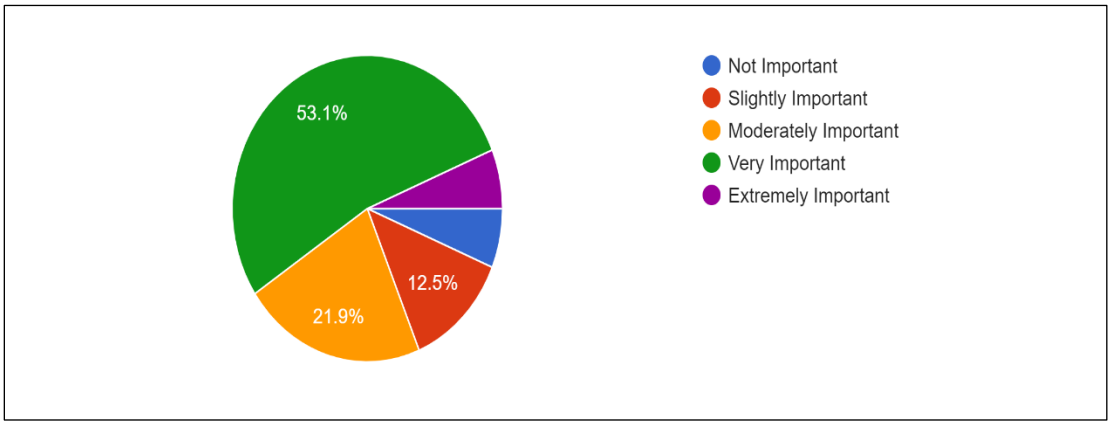

Figure 22: Importance of detailed reports and analytics in the new system

4.4.4. Communication and Coordination

Most of the respondents opted for instant messaging and emailing notification for effective communication between the participants and organizers of the tournaments.

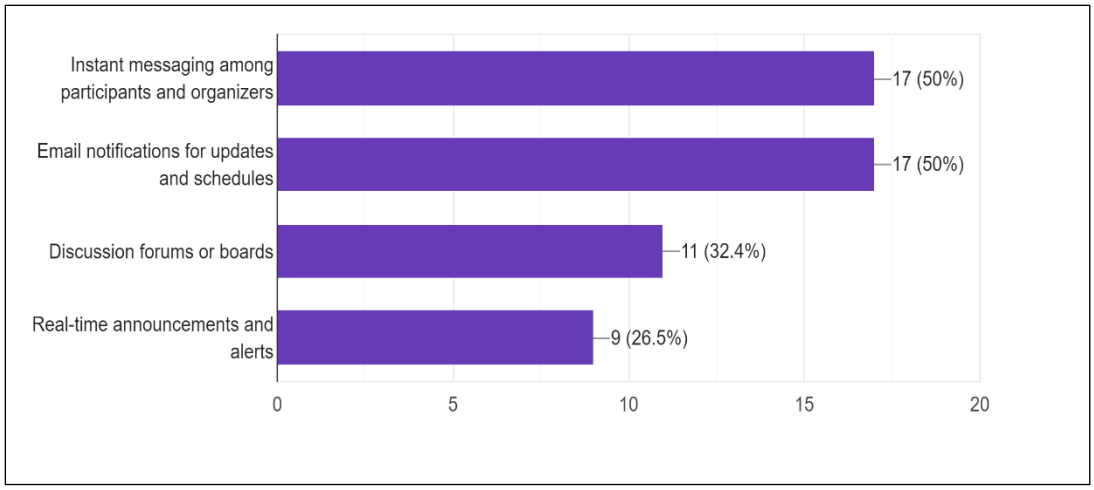

Figure 23: Preferred communication features

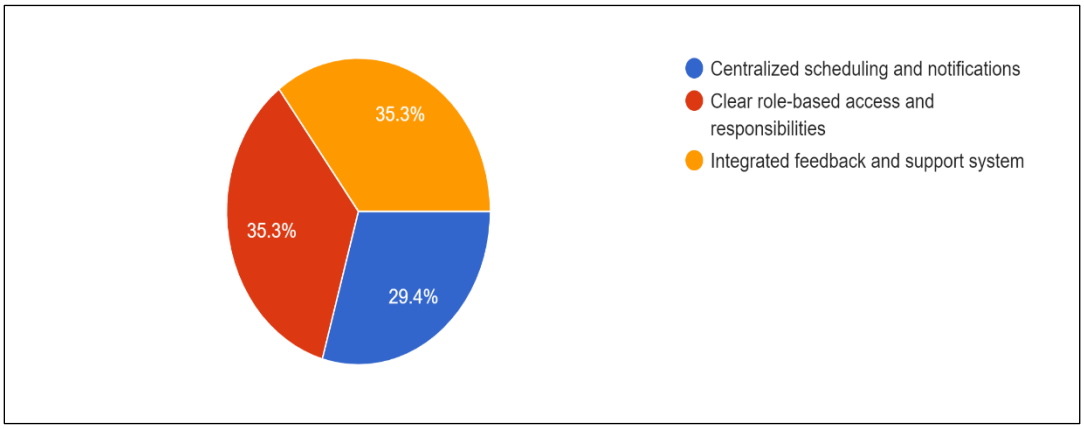

Figure 24: Importance of coordination features among organizers, participants and adjudicators

4.5. System Requirements Based on Findings

Based on the findings and user feedback, the system requirements for Rhetotab can be categorized into user requirements, system requirements, functional requirements, and non-functional requirements.

4.5.1. User Requirements

User requirements focus on what the end-users (debaters, organizers, judges, and support staff) expect from the system in terms of functionality and usability.

i. **Automated Registration and Scheduling:** Users require an easy-to-use system for registering and scheduling tournaments without manual paperwork.

ii. **Real-Time Scoring and Tabulation:** Users need a system that allows immediate entry and computation of scores.

iii. **Centralized Communication Platform:** Users desire a unified platform for all communications related to tournament updates and announcements.

iv. **User-Friendly Interface:** The system should be easy to navigate, with a design that accommodates users of varying technological proficiencies.

v. **Customizable Features:** The system should allow customization to meet individual or role-specific needs.

vi. **Integration with Existing Systems:** Users expect the new system to integrate seamlessly with current systems in use by KYUDS.

4.5.2. System Requirements

System requirements outline the technical and operational aspects necessary for the system to function effectively.

i. C**ompatibility with Existing Infrastructure:** The system must be compatible with existing hardware and software used by KYUDS.

ii. **Scalability:** The system should be scalable to accommodate different sizes of tournaments and increasing numbers of users.

iii. **Security:** The system must ensure data protection and restrict access to authorized users only.

iv. **Reliability:** The system should be reliable, minimizing downtime and errors during critical tournament operations.

v. **Performance:** The system must perform efficiently, handling large volumes of data and user interactions without significant lag.

4.5.3. Functional Requirements

Functional requirements specify the specific functionalities and features the system must support to meet user needs.

i. Automated Registration and Scheduling:

The system will feature automated participant registration and validation, ensuring a streamlined and error-free registration process. Scheduling algorithms will efficiently manage pairing and rounds, reducing manual intervention and the potential for mistakes. Integration with email

systems will facilitate automated confirmations and updates, keeping participants informed and reducing the administrative burden on organizers.

ii. Real-Time Scoring and Tabulation:

Judges will be able to enter scores immediately, allowing for real-time tabulation of results. This system will support multiple grading systems, accommodating ties and participants with similar scores, ensuring fair and accurate outcomes. The automated nature of this feature will enhance the efficiency and reliability of the scoring process.

iii. Centralized Communication:

The system will provide a unified platform for messaging and notifications, centralizing all communication related to the tournament. This will be complemented by integration with email, ensuring that important updates and announcements are easily accessible to all participants. This centralization will streamline communication, making it more effective and reducing the risk of missed information.

iv. Customizable User Interface:

The user interface will be highly customizable, allowing users to tailor it based on their roles and preferences. This flexibility will support both simple and advanced feature sets, catering to the diverse needs of debaters, judges, organizers, and support staff. A user-friendly design will ensure that all users, regardless of their technical proficiency, can navigate the system effectively.

v. Reporting and Analytics:

The system will generate detailed performance reports, providing valuable insights into participant performance and tournament outcomes. Advanced analytics will offer in-depth analysis of various metrics, helping organizers and participants understand trends and areas for improvement. These reports will enhance transparency and aid in the continuous improvement of tournament management practices.

4.5.4. Non-Functional Requirements

Non-functional requirements describe the system's performance criteria and quality attributes, which ensure it meets the users' expectations beyond just functionality.

i. **Usability:** The system should be intuitive and easy to use, with clear instructions and a low learning curve.
ii. **Accessibility:** The system must be accessible to all users, including those with disabilities, complying with relevant accessibility standards.
iii. **Performance:** The system should handle multiple simultaneous users and large datasets without performance degradation.
iv. **Security:** The system must implement robust security measures to protect user data and ensure secure access.
v. **Reliability:** The system should have minimal downtime and provide consistent performance during tournaments.
vi. **Scalability:** The system should be able to grow and handle increasing numbers of users and data without requiring significant reconfiguration.
vii. **Maintainability:** The system should be easy to maintain and update, allowing for future enhancements and bug fixes.

4.6. Conclusion

This chapter has detailed the findings from the survey, identifying key challenges in the current debate tournament management systems and suggesting improvements. The categorized system requirements provide a comprehensive guide for the design and development of Rhetotab. By addressing both the functional and non-functional requirements, Rhetotab can enhance the management of debate tournaments, providing a seamless and efficient experience for all users involved.

CHAPTER FIVE

SYSTEM DESIGN

5.1. Introduction

This chapter outlines the comprehensive design of the proposed Debate Tournament Management System (DTMS), named Rhetotab. Following the analysis and findings discussed in the previous chapters, the system design translates user and system requirements into a structured framework that will guide the development and implementation of the system. This chapter will cover various aspects of the system design, including the overall architecture, user interface, database schema, and integration of key functionalities. By providing a detailed design blueprint, this chapter aims to ensure that Rhetotab will meet the diverse needs of its users effectively and efficiently.

5.2. System Design Using Data Flow Diagrams

System design is a crucial phase in developing the RhetoTab debate tournament management system. It involves determining the system's requirements and creating a solution to meet those needs. This stage encompasses defining the architecture, components, modules, interfaces, and data essential to achieve the specified requirements (Baresi et al., 2001; Conallen, 2003).

Data flow diagrams (DFDs) are an essential tool in system design, providing a graphical representation of the data flow and processes within the system. As highlighted by Kang et al. (2012), DFDs showcase the movement of data from input to output, demonstrating how data is processed and transformed throughout the system. They are instrumental in identifying various components, such as inputs, processes, and outputs, and depicting how these components interact with one another.

For RhetoTab, DFDs can illustrate the flow of data among different stakeholders, including debaters, judges, tournament organizers, and the scheduling system. These diagrams help visualize how information such as registration data, scores, room allocations, and round schedules is handled and exchanged, ensuring the efficient management and operation of the debate tournament (Gómez et al., 2000).

5.2.1. Data Flow

Data flow pertains to the movement of data within the system. It describes the journey data takes as it traverses various processes and components, from its initial input into the system to its eventual

output or storage. To represent this movement, Data Flow Diagrams (DFDs) are often employed. DFDs offer a visual depiction of how data flows through the system, highlighting the inputs, processes, and outputs at each stage of the data flow. The data flow symbol, typically depicted as an arrow, is used in these diagrams to illustrate the direction and path of data as it moves between different elements of the system.

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5.2.2. Process

A process involves a series of activities or operations conducted on data within a system, transforming input data into output data. These processes can be either manual or automated and generally involve taking one or more inputs to perform actions that generate outputs. Processes can range from simple to complex and may consist of multiple steps.

In the context of the RhetoTab debate tournament management system, examples of processes include registering participants, scheduling rounds, scoring debates, and generating reports. These processes are essential as they determine how data is handled, transformed, and utilized within the system to ensure the efficient organization and management of the tournament.

5.2.3. Data Storage

Data storage refers to the component responsible for maintaining and accessing data within a system. This component is critical as it dictates how data is organized, stored, and retrieved.

In the RhetoTab debate tournament management system, data storage is used to keep information such as participant details, debate schedules, judge assignments, and score records. This information is vital for various system processes, including participant management, scheduling,

and result reporting. Data storage can be represented in data flow diagrams (DFDs), which show how data is stored and accessed within the system. In a DFD, data storage is typically depicted as a rectangle labeled with the name of the storage component.

5.2.4. External Entity

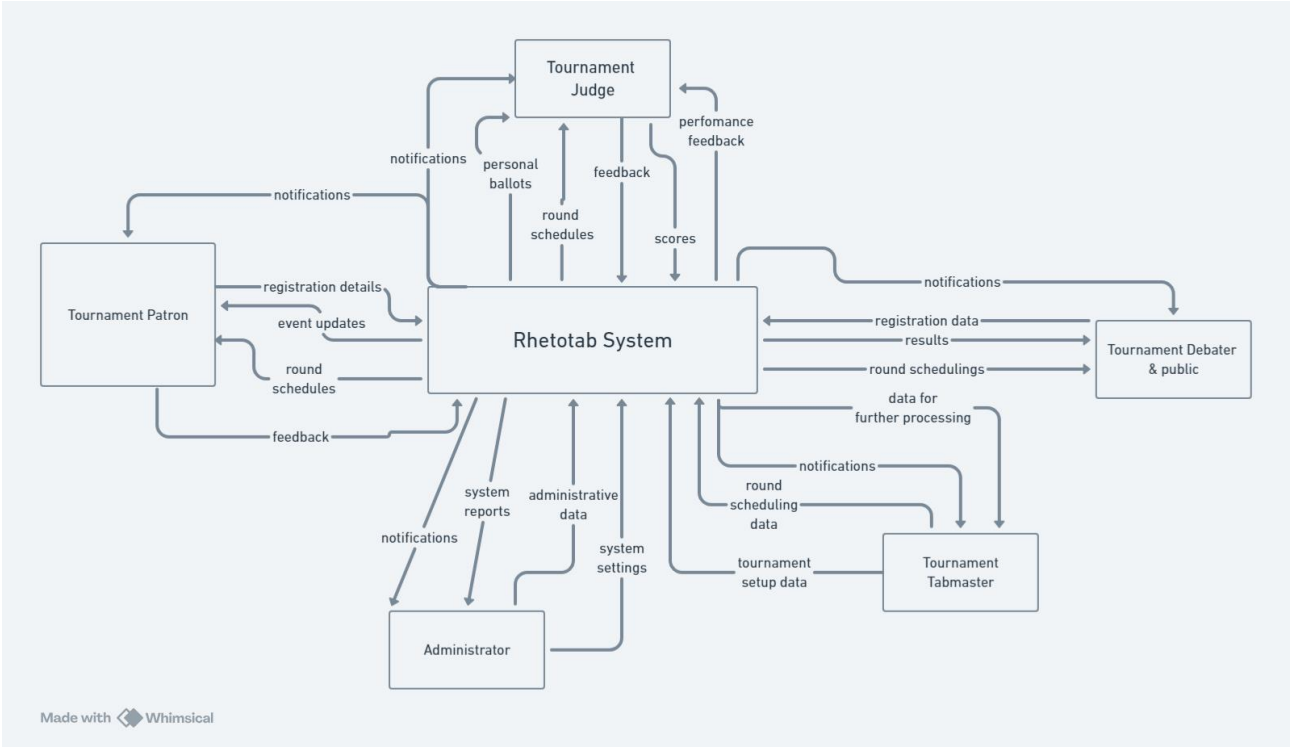
An external entity refers to any component that interacts with the system from outside its boundaries. These entities are crucial in system design as they provide inputs to the system and receive outputs.

In the RhetoTab debate tournament management system, external entities might include debaters, judges, tournament organizers, and external systems that interface with RhetoTab, such as scoring software or registration platforms. Debaters may submit their information, judges may provide scores, and organizers might manage schedules and participant details. In data flow diagrams (DFDs), external entities are typically represented as rectangles labeled with the entity's name. Arrows are used to depict the flow of data between the external entity and the system, showing the interaction and data exchange processes.

5.2.5. Context Diagram

A context diagram is a high-level visual representation that provides an overview of the system and its interactions with external entities. In this diagram, the system is depicted as a single process or

box, while external entities are represented as rectangles positioned around the system box. Arrows indicate the flow of data between the system and these external entities, illustrating the inputs and outputs involved in the interactions. This type of diagram is useful for understanding the scope and boundaries of the system and how it connects with various external components.



5.3. System Design Using ER – Diagrams

An Entity-Relationship Diagram (ERD) is a visual representation of the entities in a system and the relationships between them. It is used to model the data structure and relationships within the system, providing a clear overview of how data is organized and interrelated. ERDs are particularly useful in the design phase of a system like RhetoTab, as they help identify the essential entities, such as Debaters, Judges, Rounds, and Tournaments, and illustrate how these entities interact with each other. This ensures that the system is designed to capture and manage all necessary data efficiently, organizing it in a logical manner to support various functionalities, such as participant registration, score tracking, and tournament scheduling.

5.3.1. Identified Relations and their Attributes

In system design, an entity represents a distinct object that is crucial to the system being developed. This object can be a person, place, thing, event, or concept, and is characterized by specific attributes that describe it. For instance, in the RhetoTab debate tournament management system, entities such as Debaters, Judges, Tournaments, and Rounds are identified. Each entity has attributes that provide detailed information relevant to the system. For example, the Debater entity may include attributes such as ID, Name, Institution, Email, Team, and Ranking. These attributes define the characteristics of each debater and help in managing their data within the system.

Below are some of the identified entities and their attributes for the RhetoTab debate tournament management system:

Users Table		
Attribute	**Datatype**	**Description**
Id (primary key)	Big int	Uniquie Auto Incremental value to identify the tournament
Name	Varchar	Full name of the user
Email	Varchar	The email of the user. Must be unique
Phone	Varchar	Phone contact of the user
Password	Varchar	Encrypted password of the user
Profile photo path	Text	Path of the profile photo of the user
Gender	Tiny Int	A boolean to describe the gender of the user
Date of birth	Date	Date of birth of the user

Tournaments Table		
Name	Varchar	The name / title of the tournament

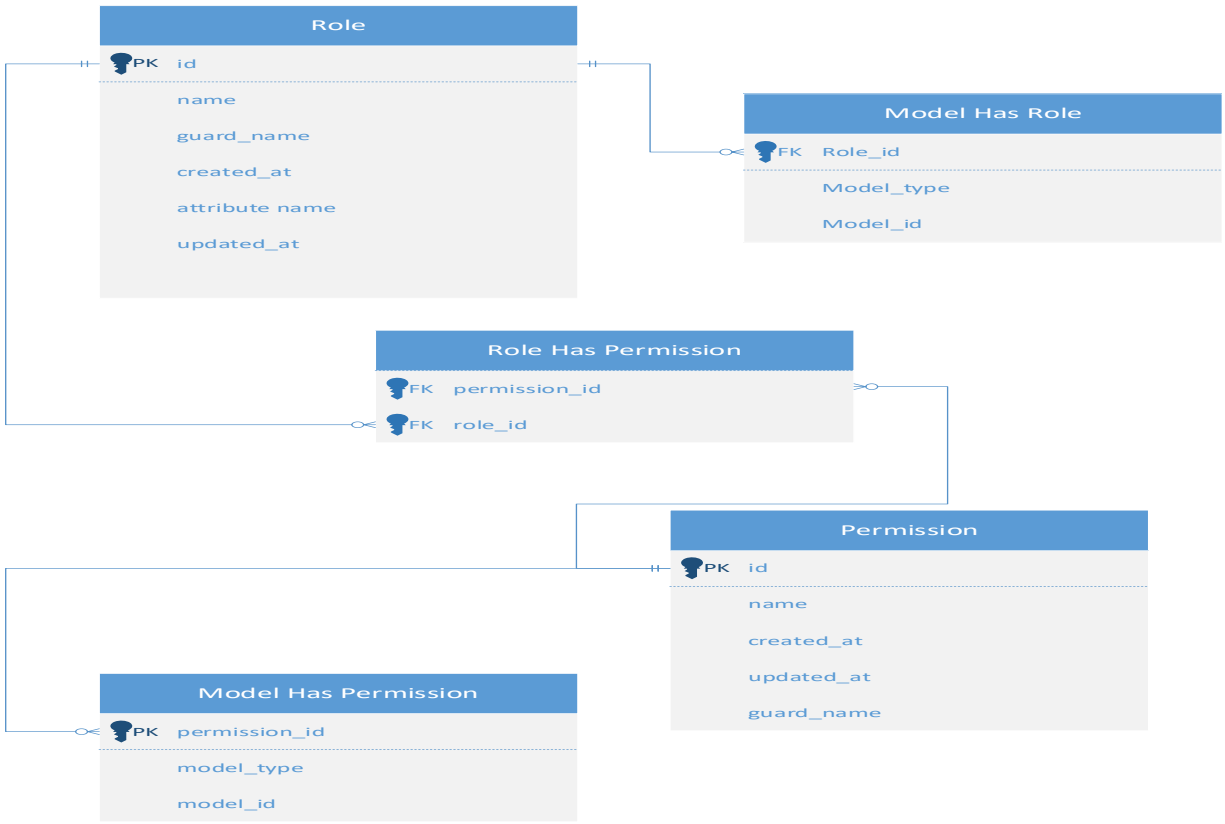
Description	Text	A simple discription of the tournament
Photo	Text	The storage path of the photo of the tournamnet.
Location	Text	Place / venue of the tournamnent
Start date	Date	Date when the tournament is anticipated to start
End date	date	Date the tournament is anticipated to end
Id (PK)	Big Int	Auto increment ID
Uuid	Text	Unique Id for the tournamnent
Created_by	Big int	Id of the user who createed the tournamnent. Also set as first tab master
Created at	Timestamp	Date when the tournamnent was recorded
Deleted at	Timestamp	Date when tournamnent was soft deleted (closed)

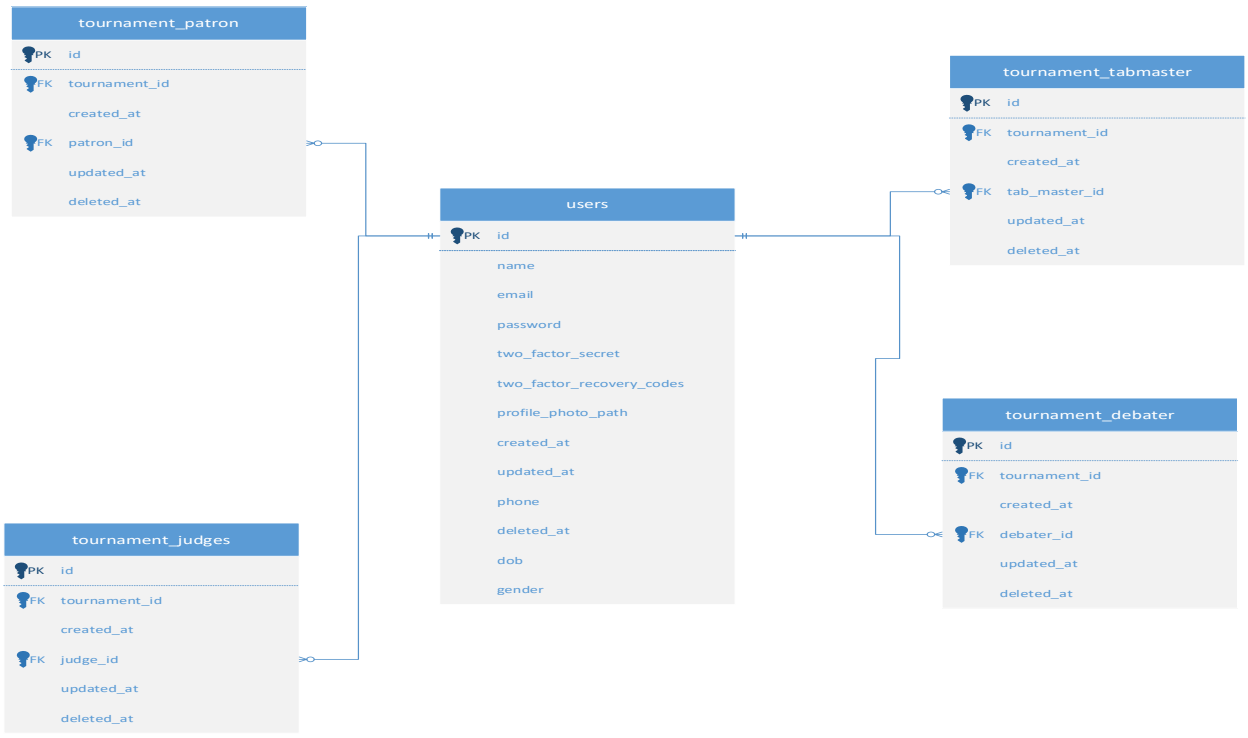
The detailed database structure is available on whimsical platform accessed through visiting https://whimsical.com/rhetotab-M6wpDDaGRynGLszYZoELPK

5.3.2. Entity Relationship Diagram

An Entity Relationship Diagram (ERD) visually illustrates the entities within a system and the relationships connecting them. In the ERD for the RhetoTab debate tournament management system, the identified entities, such as Debaters, Judges, Tournaments, and Rounds, are depicted as boxes, each listing their relevant attributes. Lines between these boxes indicate the relationships between the entities, showing how they interact and relate to one another. This diagram serves as a key component in understanding the data structure and flow within RhetoTab, helping to ensure

a comprehensive and organized system design. A fully detailed ERD can be viewed through Whimsical workspace at https://whimsical.com/rhetotab-M6wpDDaGRynGLszYZoELPK





5.4. System Implementation

The system implementation phase for RhetoTab is vital for bringing the design to life, ensuring it meets the needs of tournament organizers, judges, patrons, and debaters. This phase covers several essential steps:

i. **Hardware and Software Installation**

The necessary hardware and software will be installed, including setting up a Linux web server hosted by Hollytech Solutions. This server will host RhetoTab, providing the infrastructure needed to support the application.

ii. **Development Using Laravel and Livewire**

The system's logic and functionality will be developed using the Laravel framework, along with Livewire for building dynamic, interactive interfaces (Armel, 2014). Laravel offers a powerful foundation for developing web applications, while Livewire enables real-time updates without the need for extensive JavaScript (Kumpulainen, 2021). The development will also utilize Laravel's Eloquent ORM for managing data, including creating, reading, updating, and deleting records.

iii. **Database Creation Using Laravel Migrations**

The database will be established using Laravel's migration feature, which allows developers to define the database schema using PHP code instead of writing raw SQL. This approach ensures consistency and version control, making it easier to manage changes to the database structure over time. The MySQL database will be structured according to the Entity-Relationship Diagram (ERD) developed during the design phase.

iv. **User Interface Design with Blade Templating and Tailwind CSS**

The user interface will be created using Laravel's Blade templating engine, which simplifies the creation of dynamic views with clean, reusable code. Tailwind CSS will be used for styling, offering a utility-first approach that promotes a consistent and responsive design across the application. Together, Blade and Tailwind CSS will create a user-friendly interface for managing debate tournaments.

v. **System Configuration**

The system will be configured according to the requirements outlined in the design phase. This includes setting up user accounts, roles, and permissions, as well as implementing security measures to protect user data and ensure proper access controls.

vi. **Coding**

The RhetoTab system will be coded in line with the design specifications. This includes developing all required features and functionalities using Laravel, Livewire, and Blade, ensuring the application is robust and user-friendly.

vii. **System Testing Using PHPUnit**

Comprehensive system testing will be conducted using PHPUnit, a widely-used testing framework for PHP. This testing will cover unit tests, integration tests, and functional tests to verify that each component of the system works correctly and that the system as a whole performs as expected.

vii. **User Training and Documentation**

To ensure effective use of RhetoTab, detailed documentation will be provided, including user manuals and guides. This documentation will cover system features and navigation tips. Additionally, training sessions will be conducted to familiarize end-users with the system, covering key functionalities and best practices for using RhetoTab efficiently.

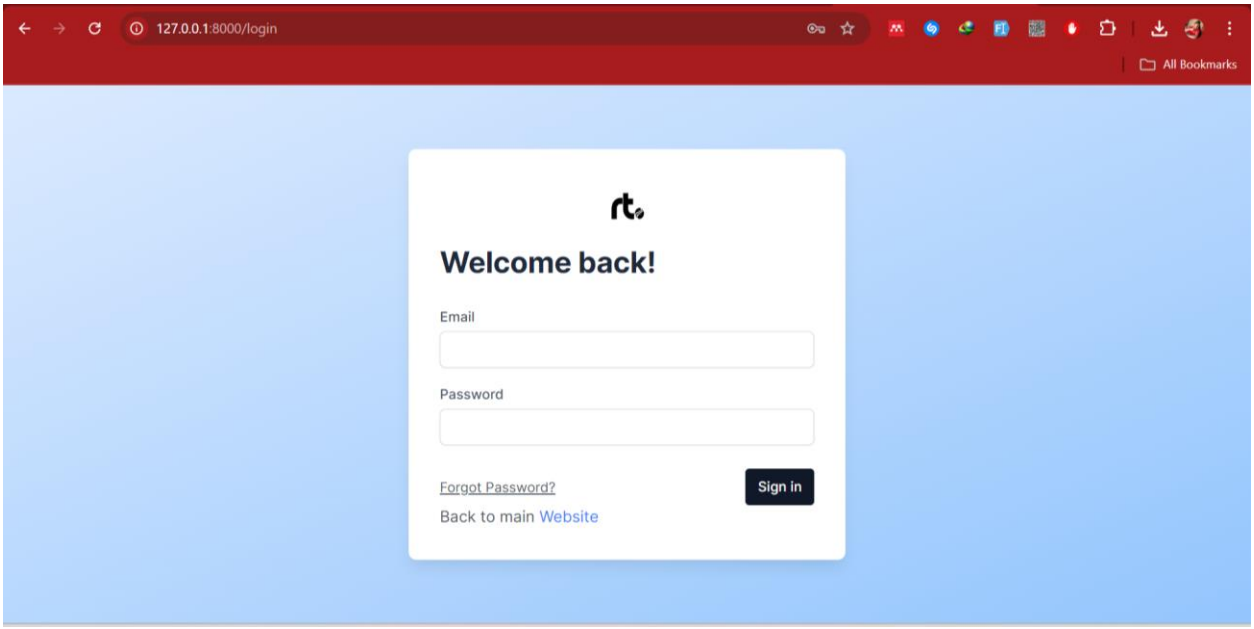
These steps will ensure that the RhetoTab system is well-implemented, thoroughly tested, and easy to use, providing a robust platform for managing debate tournaments.

5.4.1. System Graphical User Interfaces

The Graphical User Interface (GUI) for RhetoTab has been developed using Laravel's Blade templating engine, Tailwind CSS, and Livewire. This setup allows users to perform various tasks such as adding and editing tournament information, tracking participants, viewing schedules, and managing scores, all within a dynamic and interactive environment. The GUI is designed to be responsive, ensuring it can be accessed seamlessly across a range of devices, including desktop computers, laptops, and mobile devices. This ensures an effective and user-friendly experience for all users, without the need for extensive JavaScript.

5.4.2. The Login Page

The login page of the RhetoTab debate tournament management system serves as the primary interface for users to access the system. It is designed to be user-friendly, intuitive, and straightforward, ensuring that users can easily log in and access the system's features. The page includes fields for capturing the user's email and password, allowing secure authentication. Additionally, it provides links to the password recovery system for users who may have forgotten their credentials. The login page also features options to sign up for new users and a link to the main landing page of the system, making navigation seamless and efficient.



5.4.3. Sample Code

i. Web routes

```php
<?php

use Illuminate\Support\Facades\Route;
use App\Http\Controllers\DataFeedController;
use App\Http\Controllers\DashboardController;
use App\Http\Controllers\WebsiteController;
use App\Livewire\Tournament\TournamentRoundDetailsPage;
use App\Livewire\Tournament\UserInvitationCancel;
use App\Livewire\Tournament\UserInvitations;
use App\Livewire\Tournaments\Management as TournamentManagement;
use App\Livewire\Tournaments\ManageRounds;
use App\Livewire\Tournaments\ManageSettings;
use App\Livewire\Tournaments\ManageSingleTournament;
use App\Livewire\Tournaments\NewTournament;
use App\Livewire\Users\RolesManagement;
use App\Livewire\Users\UsersManagement;

Route::get('/', [WebsiteController::class, 'index'])->name('home');

// Route::redirect('/help/support', '/docs')->name('help.docs');
Route::get('/community', [WebsiteController::class, 'feedback'])->name('help.support');
Route::get('/events', [WebsiteController::class, 'events'])->name('website.events');
Route::get('/events/{uuid}', [WebsiteController::class, 'singleEvent'])->name('website.event.show');

Route::middleware(['auth:web,sanctum', 'verified'])->group(function () {

    Route::get('/dashboard', [DashboardController::class, 'index'])->name('dashboard');

    Route::get('/users', UsersManagement::class)->name('users.index');
    Route::get('/users/roles', RolesManagement::class)->name('users.roles');

    Route::get('/tournaments', TournamentManagement::class)->name('tournaments.list');
    Route::get('/tournaments/new', NewTournament::class)->name('tournaments.new');
    Route::get('/tournaments/manage-rounds', ManageRounds::class)->name('tournaments.rounds-manager');
    Route::get('/tournaments/{uuid}', ManageSingleTournament::class)->name('tournament.manage');
    Route::get('/tournaments/{uuid}/invitations/{email}', UserInvitations::class)-
>name('tournament.invitation.cancel');
    Route::get('/tournaments/{tournament}/rounds/{round}', TournamentRoundDetailsPage::class)-
>name('tournament.rounds.manage');

    Route::get('/settings/tournaments', ManageSettings::class)->name('settings.tournaments');
```

```
    Route::get('/test', [WebsiteController::class, 'testpusher']);

    Route::fallback(function () {
        return view('pages/utility/404');
    });
});
```

ii. Livewire Class Component

```
<?php

namespace App\Livewire\Tournaments;

use App\Models\Tournament;
use Livewire\Attributes\Url;
use Livewire\Component;

class ManageSingleTournament extends Component
{
    #[Url()]
    public $activeTab = 'overview';
    public $tournament;
    public function mount($uuid)
    {
        $this->tournament = Tournament::where('uuid', $uuid)->first();
    }
    public function render()
    {
        return view('livewire.tournaments.manage-single-tournament');
    }

}
```

5.5. System Testing and Validation

5.5.1. System Testing

The initial version of RhetoTab was rigorously tested to ensure it met the design phase's requirements and specifications. This process included extensive system testing, focusing on core features such as participant management, round scheduling, and score tracking. RhetoTab was first deployed at the Paragon Rhetorica Kampala Public Speaking Tournament, hosted by the

Kyambogo University Debate Society. During this event, the tabmaster and other organizers actively used the system and provided valuable feedback. This feedback was instrumental in refining the system's design and functionality, helping the developers address any issues and enhance user experience.

In addition to real-world testing, the development team utilized PHPUnit to rigorously test the system's main processes. This ensured the reliability and stability of RhetoTab, verifying that all critical components functioned correctly under various conditions. The combination of live event testing and automated unit testing helped ensure that RhetoTab met the high standards of accuracy, efficiency, and usability required for successful tournament management.

5.5.2. System Validation

The validation process for RhetoTab ensured that the system met the needs and requirements of both the tournament organizers and participants, confirming its effectiveness in managing tournament logistics and data. Following the completion of the system testing phase, RhetoTab was validated through a series of real-world applications, including its deployment at the Paragon Rhetorica Kampala Public Speaking Tournament hosted by the Kyambogo University Debate Society. During this event, end-users, such as the tabmaster and other organizers, tested the system's functionalities, including participant management, round scheduling, score tracking, and report generation.

The system's performance was closely monitored to ensure it met the design phase's specifications, including response times and system availability (Ricca & Tonella, 2001). Additionally, the data integrity and security of RhetoTab were rigorously tested to safeguard sensitive tournament data and ensure the system's secure and reliable operation.

As part of the validation process, a feedback forum was integrated into the system documentation using the Disqus API. This forum allowed users to provide feedback and suggestions, which were instrumental in refining the system to meet the required standards. The combination of user feedback, real-world testing, and automated testing with PHPUnit ensured that RhetoTab met the necessary validation criteria, providing a robust and reliable solution for tournament management (Di Lucca et al., 2002).

5.6. Conclusion

In this chapter, we have detailed the design of the RhetoTab system, emphasizing its architecture, user interface, database schema, and core components. The design prioritizes scalability, flexibility, and user experience, making RhetoTab versatile for various debate and public speaking events. Key modules such as participant management, round scheduling, score tracking, and reporting are integrated for a seamless user experience, with robust security measures in place to protect data. This comprehensive design serves as a blueprint for the implementation and deployment phases, providing clear guidance for developers and stakeholders. It establishes a foundation for a reliable, efficient system that meets high user expectations, ensuring RhetoTab's success and user satisfaction.

CHAPTER SIX

DISCUSSION, RECOMMENDATIONS AND CONCLUSION

6.1. Introduction

This chapter provides a comprehensive discussion of the findings from the RhetoTab system's development and implementation. It offers recommendations for further improvements, addresses the study's limitations, and identifies areas for future research. The chapter concludes by summarizing the key insights gained from this project.

6.2. Discussion

The development of RhetoTab has highlighted the importance of a well-structured and user-centric design in managing debate and public speaking tournaments. The system successfully integrates participant management, round scheduling, score tracking, and reporting functionalities, providing a seamless experience for both organizers and participants. The use of scalable architecture and robust security measures ensures the system's reliability and data protection.

The implementation in the Paragon Rhetorica Kampala Public Speaking Tournament demonstrated RhetoTab's effectiveness in real-world scenarios. Feedback from the tabmasters and organizers highlighted areas of strength, such as the intuitive user interface and comprehensive reporting features, as well as areas needing improvement, such as the refinement of certain functionalities to better cater to diverse event formats.

6.3. Recommendations

Based on the findings and user feedback, several recommendations are proposed for enhancing RhetoTab:

i. **User Experience Enhancements:** Further refine the user interface to improve navigation and usability, ensuring that the system is accessible to users of varying technical skills.
ii. **Feature Expansion:** Introduce additional features such as automated round pairing algorithms and real-time scoring updates to enhance the system's utility for larger tournaments.
iii. **Mobile Accessibility:** Develop a mobile-friendly version or dedicated app to enable easier access for participants and organizers on the go.

iv. **Localization and Language Support:** Expand the system's language options to accommodate international users and make it more inclusive.

v. **Training and Support:** Provide comprehensive training materials and support to help users maximize the system's potential.

6.4. Limitations of the Study

The study had several limitations that may have impacted the findings:

i. **Limited Scope:** The system was primarily tested in a single tournament setting, which may not fully represent the diverse needs of all debate and public speaking events.

ii. **User Feedback Limitations:** Feedback was collected from a limited number of users, which may not capture the full range of user experiences and expectations.

iii. **Resource Constraints:** The development and testing phases were constrained by time and resource limitations, which may have affected the thoroughness of certain aspects of the system's design and implementation.

6.5. Areas of further research

Future research could explore the following areas to further enhance RhetoTab:

i. **Integration with External Systems:** Investigate the integration of RhetoTab with other event management and scoring systems to provide a more comprehensive solution.

ii. **Advanced Analytics:** Develop advanced analytics and reporting tools to provide deeper insights into participant performance and event outcomes.

iii. **Scalability Testing:** Conduct extensive scalability testing to ensure the system can handle larger tournaments and increased user loads.

iv. **User-Centric Design Studies:** Undertake studies focused on user-centric design to continuously improve the user experience and interface design.

6.6. Conclusion

The RhetoTab system represents a significant advancement in the management of debate and public speaking tournaments, offering a robust, user-friendly platform for organizers and participants alike. The development process has highlighted key areas for improvement and provided valuable insights into the needs of the target audience. By addressing the identified limitations and incorporating the proposed recommendations, RhetoTab can continue to evolve, providing an even more powerful and comprehensive tool for the debate and public speaking community. The careful planning, development, and deployment of RhetoTab have laid a strong foundation for its future growth and success, ensuring it remains a valuable resource for tournament organizers and participants.

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