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UNIVERSITI
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MARA



PROCEEDINGS OF JOHOR INTERNATIONAL INNOVATION INVENTION COMPETITION AND SYMPOSIUM 2024 (JIIICaS 2024)



*"Flourish and Nurturing Sustainable
Innovation for a Prosperous Nation"*

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Preface

In the name of Allah, the Almighty who gives us the enlightenment, the truth, the knowledge and with regards to Prophet Muhammad (peace be upon him) for guiding us to the straight path. We thank to Allah for giving us guidance and strength to write this e-book.

This e-book compiles the extended abstracts that submitted to Johor International Innovation Invention Competition and Symposium 2024 (JIIICaS2024), where JIIICaS2024 is a virtual platform for all creative minds to share and present their invention and innovation. Each abstract gives a brief background on the innovation or project.

We hope that this e-book will help the readers to get to know the innovation done by the students and get some ideas to develop future innovation products.

Foreword Rector



Assalamualaikum warahmatullahi Wabarakatuh,
Salam Sejahtera, Salam Malaysia MADANI and
Salam UiTM Dihatiku.

In the name of Allah, the Most Gracious, the Most
Merciful.

It is a great honor to welcome you to the Johor
International Innovation, Invention, Competition, and
Symposium 2024 (JIIICaS 2024). This event

connects various disciplines, focusing on education and engaging educators,
students, researchers, and innovators from all walks of life.

Innovation is not just about ideas; it demands perseverance, creativity, and
determination to turn those ideas into reality. The remarkable projects
showcased today highlight the dedication and spirit of all participants.
Initiatives like this not only explore new technologies but also cultivate skills
and leadership among our youth. At Universiti Teknologi MARA (UiTM) Johor
Branch, we are fully committed to fostering a dynamic culture of innovation,
promoting the commercialization of new products, and encouraging
meaningful collaborations with industry and society.

As we celebrate this event, I would like to extend my heartfelt gratitude to all
sponsors, judges, the College of Computing, Informatics and Mathematics,
UiTM Pasir Gudang Campus as the event organizer, as well as to the
researchers and participants for their hard work in making this event a
success. Let us continue striving for innovation and excellence. May the
ideas presented today inspire us and lay the groundwork for future
achievements.

Thank you.

Associate Professor Dr. Saunah Zainon
Rector
Universiti Teknologi MARA (UiTM)
Johor Branch

(A-SS031) THIRSTY POD

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ABSTRACT

This study introduces a unique tumbler with a built-in monopod designed to meet the needs of energetic individuals such as adventurers and creatives. The design mixes flair and utility to provide stability and convenience wherever the users go. Traditional tumblers frequently lack stability and versatility, particularly in hands-free or precise placing scenarios. The goal is to overcome these issues by adding a monopod into the tumbler design, which will make it easier to use. The tumbler's design attempts to improve outdoor photography by securely placing cameras on a monopod and maximizing space efficiency with a water tumbler holder. The team created the tumbler with computer-aided design software, selecting lightweight materials for mobility and hydration functionality. Stability and adaptability were important considerations throughout the design process. The research discovered that the monopod tumbler provides stability and hands-free convenience, making it suitable for a variety of activities other than carrying drinks. (Hamel, n.d.) It can stabilize a camera for outside shooting, which participants love because it allows to take better images without fear of the camera toppling over. It also serves as a water tumbler holder, making outdoor adventures more convenient and space efficient. The team used modern computer technologies to create and test the monopod tumbler, ensuring its usefulness and durability. The result is a durable, practical, and versatile tumbler ideal for outdoor enthusiasts. Its built-in monopod assures that it works perfectly as a water tumbler, making it an excellent companion for journeys.

Keywords: Photography, outdoor adventures, hydrating stands, innovative gear, eco-friendly fixture.

1.0 INTRODUCTION

Experience the innovative tumbler with an inbuilt monopod, the perfect companion for hydration needs. Designed to help individuals who are constantly on the move, so it doesn't matter such as creatives and adventurers, this modern and inventive style effortlessly combines style with utility. This tumbler's robust monopod base keeps it upright on any surface and offers a steady surface for refreshment on the go. With the monopod-equipped tumbler, it can embrace ease, style, and hydration on all of adventures.

2.0 OBJECTIVE

There are several objectives of Thirsty Pod:

1. To improve outside photos by using the tumbler to hold camera securely on the monopod.
2. To present a water tumbler holder in the monopod design to maximise space when engaging in outdoor activities.
3. To enhance the monopod's stability and adaptability in a variety of settings by including the weight and usefulness of the tumbler,
4. To provide a useful and adaptable device that satisfies the needs of outdoor lovers for both photography and hydration in a small device.

3.0 METHODOLOGY

The Thirsty Pod product, which is a tumbler that has a monopod that brings convenience to the user of the product. Thirsty Pod, a tumbler with a monopod offers convenience by eliminating the need for a separate monopod during travel or outdoor activities. This Thirsty Pod product will reduce the user's problem which is the user does not need to carry a tumbler and monopod separately anymore because this product use 2 in 1 concept which is a water tumbler together with a monopod holder. It can reduce the amounts of items to carry and making it beneficial for users. When the user carries this tumbler, the use also can use their monopod in the place provided near the tumbler. The tumbler's main feature is its built-in monopod, allowing the users to take hands-free selfies or photos without the need for additional accessory. Other than that, the monopod also should be adjustable, allowing the users to easily extend and retract it to their preferred length. Detachable monopod from the tumbler for versatility which is allowing the users to use the tumbler independently without the attachment when desired. If the users do not want to use the monopod, the users can just remove the monopod from the tumbler.



Figure 1: This is an overview of the Thirsty Pod product.

The Thirsty Pod, a tumbler with an attached monopod, was created using a rigorous procedure to fulfill the demands of outdoor lovers and photographers. The, the objective was to integrate hydration and photography tools into a single product. The Thirsty Pod was created using CAD software to ensure its stability and versatility. They

selected robust materials for the tumbler, they went with stainless steel and Tritan plastic for the monopod, they went with aluminium alloy, carbon fibre, magnesium alloy, and premium plastic. Potential users created and tested prototypes in a variety of natural environments. In response to feedback, design changes were made to guarantee robustness and simplicity of use. Following design processing, the device was put into production under extensive quality control measures. Those who enjoy the outdoors and photographers were the target market for the Thirsty Pod. Regular client input allowed continuous development. This procedure made sure that the Thirsty Pod is a useful, long-lasting, and adaptable tool for taking pictures and staying hydrated on nature walks.

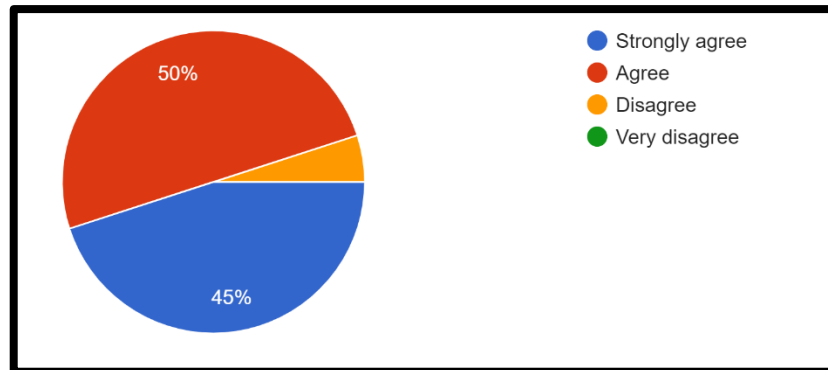
The Thirsty Pod product uses stainless steel for its tumbler, a durable, corrosion-resistant and offer excellent insulation properties, keeping drinks hot or cold for extended periods that's mean it can control the temperature based on water hot or cold. The material also easy to clean and maintain (Patriot Coolers, 2022). Other material for the tumbler is Tritan. Tritan is a BPA-free, impact-resistant plastic known for its clarity, toughness, and dishwasher-safe properties. It's commonly used in high-quality water tumblers due to its durability and lightweight nature (Patriot Coolers, 2022). The silicone rubber ring for water bottles is primarily used for ensuring waterproof sealing and maintaining freshness. It is commonly applied in various daily necessities such as water bottles, thermal boxes, thermal cups, ovens, and magnetized cups. This ring helps to preserve the temperature and freshness of the contents by providing a tight seal, preventing leaks and contamination. (Guangzhou Diller Daily Necessities Co.,Ltd, 2019)

Next, the material used to make the monopod is aluminium alloy. Aluminium alloys are lightweight, durable and offer excellent strength-to-weight ratio. The material are commonly used in monopod legs for outdoor photography equipment due to their stability and portability (Patriot Coolers, 2022), (Patel, 2024). Furthermore, the second material is carbon fiber. Carbon fiber is incredibly lightweight, yet strong and rigid. It provides excellent vibration damping properties, making it ideal for monopod legs to ensure stability and reduce camera shake during photography. The next material is magnesium alloy, the material offer a good balance of strength and lightweight properties. They're commonly used in monopod components to provide durability while keeping overall weight low for ease of transport. The last one is high-grade plastic. High-grade plastics like reinforced nylon or ABS are used in monopod components like quick-release plates and locking mechanisms due to their strength, durability, and weight reduction compared to metal alternatives. (Patriot Coolers, 2022) (accessories, 2020)

4.0 RESULTS

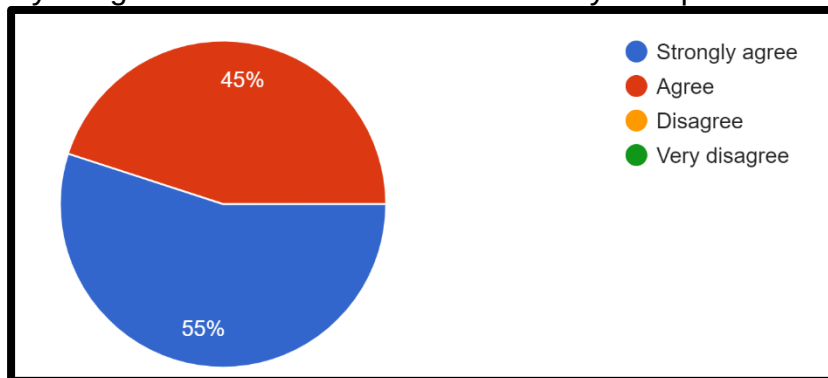
The versatile Thirsty Tumbler is highly recommended and suitable for a variety of activities and environments. Whether hiking in rugged terrain, camping in the forest and picnicking in the park, people can count on the stability and convenience of a monopod tumbler. The innovation of this idea can provide convenience to consumers in addition to supplying the water source in the tumbler, the product also provides a monopod holder for the user to use to capture their moments. From this, the result of Thirsty Pod is an innovative hydration solution that offers stability and hands-free function that enhance the user experience in various scenarios. The result from the survey that already done;

Question: Do you have trouble carrying a water bottle and monopod wherever you go?



For this question, only 5% respondent that vote disagree and majority all the respondents agree with this question.

Question: Do you agree with the release of this Thirsty Pod product?



The chart shows that all the respondent agree to release of Thirsty Pod product.

5.0 CONCLUSION

In conclusion, the research proposes a new solution in the design of a tumbler with an integrated monopod, designed to meet the dynamic needs of persons who lead busy lives. This innovative design ensures stability and convenience in any setting by perfectly combining style and practicality. The tumbler's robust monopod base provides a solid surface for hydration while participating in outdoor activities. The Thirsty Pod design aims include improving outdoor photography, increasing space efficiency, increasing stability, and delivering a versatile tool that effortlessly combines hydration and photographic needs for outdoor lovers. The method included considerable design development, meticulous material selection, consideration of hydration functionality, and tight production and quality control procedures. Although there are additional things to consider in designing, these are the main components of our strategy

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