

Air Drumming: Applied on-device body pose estimation

Maurice Van Wassenhove

Student number: 01905976

Supervisors: Prof. dr. Peter Lambert, Prof. dr. ir. Glenn Van Wallendael

Master's dissertation submitted in order to obtain the academic degree of
Master of Science in Computer Science Engineering

Academic year 2023-2024

The author(s) gives (give) permission to make this master dissertation available for consultation and to copy parts of this master dissertation for personal use. In all cases of other use, the copyright terms have to be respected, in particular with regard to the obligation to state explicitly the source when quoting results from this master dissertation.

This master's dissertation is part of an exam. Any comments formulated by the assessment committee during the oral presentation of the master's dissertation are not included in this text.

Abstract—The process of scientific writing is often tangled up with the intricacies of typesetting, leading to frustration and wasted time for researchers. In this paper, we introduce Typst, a new typesetting system designed specifically for scientific writing. Typst untangles the typesetting process, allowing researchers to compose papers faster. In a series of experiments we demonstrate that Typst offers several advantages, including faster document creation, simplified syntax, and increased ease-of-use.

Index terms—Scientific writing, Typesetting, Document creation, Syntax

Contents

1 Introduction	1
1.1 Paper overview	1
2 Methods	1
References	2

1 Introduction

Scientific writing is a crucial part of the research process, allowing researchers to share their findings with the wider scientific community. However, the process of typesetting scientific documents can often be a frustrating and time-consuming affair, particularly when using outdated tools such as LaTeX. Despite being over 30 years old, it remains a popular choice for scientific writing due to its power and flexibility. However, it also comes with a steep learning curve, complex syntax, and long compile times, leading to frustration and despair for many researchers. [1]

1.1 Paper overview

In this paper we introduce Typst, a new typesetting system designed to streamline the scientific writing process and provide researchers with a fast, efficient, and easy-to-use alternative to existing systems. Our goal is to shake up the status quo and offer researchers a better way to approach scientific writing.

By leveraging advanced algorithms and a user-friendly interface, Typst offers several advantages over existing typesetting systems, including faster document creation, simplified syntax, and increased ease-of-use.

To demonstrate the potential of Typst, we conducted a series of experiments comparing it to other popular typesetting systems, including LaTeX. Our findings suggest that Typst offers several benefits for scientific writing, particularly for novice users who may struggle with the complexities of LaTeX. Additionally, we demonstrate that Typst offers advanced features for experienced users, allowing for greater customization and flexibility in document creation.

Overall, we believe that Typst represents a significant step forward in the field of scientific writing and typesetting, providing researchers with a valuable tool to streamline their workflow and focus on what really matters: their research. In the following sections, we will introduce Typst in more detail and provide evidence for its superiority over other typesetting systems in a variety of scenarios.

2 Methods

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim aenean aliquam hendrerit ut velit blandit. Quod idem licet transferre in voluptatem, ut postea variari voluptas distinguere possit, augeri amplificarique non possit. At etiam Athenis, ut e patre audiebam facere et urbane Stoicos irridere, statua est in quo a nobis philosophia defensa et collaudata est, cum id, quod maxime placeat, facere possimus, omnis.

$$a + b = \gamma$$

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim aenean aliquam hendrerit ut velit blandit. Quod idem licet transferre in voluptatem, ut postea variari voluptas distinguere possit, augeri

amplificarique non possit. At etiam Athenis, ut e patre audiebam facete et urbane Stoicos irridente, statua est in quo a nobis philosophia defensa et collaudata est, cum id, quod maxime placeat, facere possimus, omnis voluptas assumenda est, omnis dolor repellendus. Temporibus autem quibusdam et aut officiis debitis aut rerum necessitatibus saepe eveniet, ut et voluptates repudiandae sint et molestiae non recusandae. Itaque earum rerum defuturum, quas natura non depravata desiderat. Et quem ad me accedis, saluto: 'chaere,' inquam, 'Tite!' lictores, turma omnis chorusque: 'chaere, Tite!' hinc hostis mi Albucius, hinc inimicus. Sed iure Mucius. Ego autem mirari satis non queo unde hoc sit tam insolens domesticarum rerum fastidium. Non est omnino hic docendi locus; sed ita prorsus existimo, neque eum Torquatum, qui hoc primus cognomen invenerit, aut torquem illum hosti detraxisse, ut aliquam ex eo est consecutus? – Laudem et caritatem, quae sunt vitae.

References

- [1] R. Astley and L. Morris, "At-scale impact of the Net Wok: A culinarily holistic investigation of distributed dumplings," *Armenian Journal of Proceedings*, vol. 61, pp. 192–219, 2020.