PaintMobile3D: A Novel Android Application to Draw in 3D

Nathan Jordan

University of Nevada, Reno 1664 North Virginia Street Reno, NV 89557 USA njordan@cse.unr.edu

Thomas Kelly

University of Nevada, Reno 1664 North Virginia Street Reno, NV 89557 USA tjbk123@gmail.com

Halim Ates

University of Nevada, Reno 1664 North Virginia Street Reno, NV 89557 USA hcagri@gmail.com

Dr. Sergiu Dascalu

University of Nevada, Reno 1664 North Virginia Street Reno, NV 89557 USA dascalus@cse.unr.edu



Copyright is held by the author/owner(s). *CHI'13*, April 27 – May 2, 2013, Paris, France. ACM 978-1-XXXX-XXXX-X/XX/XX.

Abstract

Traditional 3D painting software has relied on building a two-dimensional representation of three-dimensional space in which the user can rotate, pan, and zoom. PaintMobile3D takes a different approach. As smartphones become faster and more feature rich, we can take advantage of these improvements to do things that would previously be infeasible. Using a phone's camera, accelerometer, gyroscope, and/or compass, PaintMobile3D will be able to track the users movements as they move the phone around in the real world, allowing them to draw in 3D, based on the movements of the device in the real world. The user will be able to pick from different colors and can make multiple "strokes" using the phone to create more advanced drawings.

Author Keywords

smartphones, android, drawing, computer vision

ACM Classification Keywords

H.5.2 [Information interfaces and presentation (e.g., HCI)]: User Interfaces.

General Terms

Design, Algorithms, Human Factors

Introduction

This format is to be used for submissions that are published in the conference extended abstracts. We wish to give this volume a consistent, high-quality appearance. We therefore ask that authors follow some simple guidelines. In essence, you should format your paper exactly like this document. The easiest way to do this is simply to download a template from the conference website and replace the content with your own material.



Figure 1: Insert a caption below each figure. Images can "float" around body text, like this example.

Copyright

Copyright (c) 2012, University of Nevada, Reno Department of Computer Science. All rights reserved.

Figures

The examples on this and following pages should help you get a feel for how screen-shots and other figures should be

placed in the template. Be sure to make images large enough so the important details are legible and clear.

Your document may use color figures, which are included in the page limit; the figures must be usable when printed in black and white. You can use the LATEX's marginpar command to insert figures in the (right) margin side of the document (see Figure 3).

As shown in Figure 1, the width of figures can be bigger than the width of text columns. Figure 2 is an example of how much space can be reserved for images.

References and Citations

Use a numbered list of references at the end of the article, ordered alphabetically by first author, and referenced by numbers in brackets [?, ?, ?, ?] For papers from conference proceedings, include the title of the paper and an abbreviated name of the conference (e.g., for Interact 2003 proceedings, use Proc. Interact 2003). Do not include the location of the conference or the exact date; do include the page numbers if available. See the examples of citations at the end of this document.

Your references should be published materials accessible to the public. Internal technical reports may be cited only if they are easily accessible (i.e., you provide the address for obtaining the report within your citation) and may be obtained by any reader for a nominal fee. Proprietary information may not be cited. Private communications should be acknowledged in the main text, not referenced (e.g., [Robertson, personal communication]).

You may want to place some marginal notes in this page to display more information.

Note that marginal notes must appear in the (left) outer margin, due to the template design.



Figure 2: A big figure. You may want to place some marginal notes in this page, as shown above. Notice also that this image resolution is quite low, as it is just an example of formatting.



Figure 3: A marginal figure.

Producing and testing PDF files

We recommend that you produce a PDF version of your submission well before the final deadline. Besides making sure that you are able to produce a PDF, you will need to check that (a) the length of the file remains within the submission category's page limit, (b) the PDF file size is 4 megabytes or less, and (c) the file can be read and printed using Adobe Acrobat Reader. Test your PDF file by viewing or printing it with the same software we will use when we receive it, Adobe Acrobat Reader Version 7. This is widely available at no cost from [?]. Note that most reviewers will use a North American/European version of Acrobat reader, which cannot handle documents

containing non-North American or non-European fonts (e.g. Asian fonts). Please therefore do not use Asian fonts, and verify this by testing with a North American/European Acrobat reader (obtainable as above). Something as minor as including a space or punctuation character in a two-byte font can render a file unreadable.

Acknowledgements

We thank all DUX 2003 publications support and staff who wrote this document originally and allowed us to modify it for this conference. This template was based on Manas Tungare's chi.cls, and rewritten by Luis A. Leiva.