USER INTERACTION IN OPTICAL MUSIC RECOGNITION

Analysis and Examples

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OVERVIEW

- Advantages of User Interaction

- Demonstrations

- Client vs. Server

- Optical Music Recognition (OMR)

- Client-Side Development Challenges

ADVANTAGES OF USER INTERACTION

- User can see the effects of their choices in real-time

- Allows for more informed, less arbitrary decisions

- User can correct computer's mistakes

DEMONSTRATIONS

CLIENT-SERVER MODEL

- Server:

  - Many powerful computers in remote locations

  - Only runs before page load and after page submission (generally), so inherently non-interactive

  - Run-time of programs less important than client-side, as they can run in the background

- Client:

  - Runs on your computer, in your browser

  - Different browsers can run the same program differently, so behaviour must be standardised

  - Generally much less computationally powerful than server-side execution

  - Same program will run slower client-side vs. server side

  - Sometimes programs can be prohibitively slow

  - Starts executing once page has loaded

OPTICAL MUSIC RECOGNITION (OMR)

- The process of converting digital images of music scores to symbolic notation

- Many steps involved in OMR

  - Rotation

  - Cropping

  - Binarisation

  - Despeckling

  - Staff Finding/Segmentation

- Some steps automatic, others are open to user input

ADVANTAGES OF INTERACTIVITY IN OMR

- User can preview expensive image processing operations and send the parameters to the server

- Server can still do all the "heavy-lifting"

- Once parameters for one image are chosen, same parameters can be applied to all images from that collection

THANK YOU!

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