

## Minutes of Bernstein Project Meeting Stuttgart

**Date and Time of Meeting:** 22. October 2007, 10:30 a.m. till 4 p.m.

**Present:** Jan van der Lubbe (DUT), Hector Moreu Otal (DUT), Alois Haidinger (KSBM), Peter Rückert (LABW), Erwin Frauenknecht (LABW), Thomas Fricke (LABW), Carmen Partes (LABW)

**Keeper of minutes:** Carmen Partes and Erwin Frauenknecht

### 1. Aim of meeting

- Piccard-Online needs to be enriched by the watermark in printed Piccard volumes.
- The aim is to have references of watermarks of both, the printed Piccard volumes (45.000 watermarks) and Piccard-Online (95.000 watermarks).
- The inventories need to be mapped for avoiding duplicates in the database.
- The cutting and the mapping, if possible, of watermarks in printed Piccard should be done automatically.

### 2. Hector's Presentation

- Explaining the different methods of images processing like backlight subtraction, X-ray post-processing a.o. (comp. attachment)
- Affirming the detection tool, based on MatLab V 7, for isolation watermarks by creating a boundary box (comp. attachment):
- The performance of the automatically extraction of watermarks is 92 %.
- The remains need to be done by hand.
- Errors caused e.g. by too close watermarks on a page.
- Automatic detection of the bounding box, hence the chain- and laid lines can be also removed or watermarks can be damaged, if the chain line in contact with the image.
- New accounting of watermarks per page (later on important for exact identifying of signature)
- Problems by mapping the watermarks: matches are subjective; they cannot be done automatically

### 3. Discussion

- Chain- and laid lines are necessary for the identification of watermarks, therefore inserting frame around boundary box for inserting chain lines again
- Measure of watermarks is basis for mapping of the watermarks, for this reason measuring automatically the boundary box
- Proposal for doing the mapping of the watermarks with a semi-automatic method

#### 4. Decisions

- I. LABW and KSBM will license matlab 7 till meeting in Vienna in November
- II. DUT will optimize the detection tool concerning frame and measuring watermarks in printed Piccard
- III. Installation detection tool for KSBM and LABW in Vienna by Hector
- IV. Introduction for using the tool by Hector in Vienna
- V. Later on Hector will be available for questions by using this tool
- VI. Contact person for LABW is Carmen Partes (carmen.partes@la-bw.de) and Alois Haidinger for KSBM (alois.haidinger@oeaw.ac.at)
- VII. Detection of watermarks of printed Piccard by LABW (Partes) and KSBM; KSBM (Haidinger or Stiegläcker) identifies for the moment 100 identical wm for mapping, to have an idea how many numbers we get in the comparisons. In this way we get a sequence of candidates and from these candidates we could accept for example all as identical wm less than 0.15.
- VIII. Detection of watermarks in Piccard Online (persons of charge will be assigned later)
- IX. Mapping of Piccard Online and printed Piccard (persons of charge will be assigned later)