TC10
Technical Committee on Graphics Recognition

Newsletter   N°110

In This Issue ✉

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Call for Contributions

Please contribute relevant news to TC10 groups. Please send any relevant event, notice or link to the newsletter editor : Alicia Fornes.

Message from the editor

Welcome to the January edition of TC10 newsletter, where you will find information about the next GREC 2015, the ICDAR 2015 Doctoral Consortium, the CBDAR 2015 workshop, the ICDAR 2015 competitions and the next call for papers.

Happy 2015!

Follow us at twitter: https://twitter.com/IAPR_TC10.

Alicia Fornés,
IAPR-TC10 Newsletter Editor.

GREC 2015 : Announcement

Eleventh IAPR International Workshop on Graphics Recognition - GREC 2015
August 20-21, 2015
http://www.sage-eniso.org/grec2015

The TC-10 and GREC 2015 organizing committee are glad to announce that the Eleventh International Workshop on Graphics Recognition (GREC 2015), organized by the IAPR TC-10, will be held at Sousse.
Sousse is a city in Tunisia at about 2 hours from Tunis (where ICDAR 2015 will be held).
Transportation shuttle buses will be arranged between GREC and ICDAR.

The GREC workshops provide an excellent opportunity for researchers and practitioners at all levels of experience
to meet colleagues and to share new ideas and knowledge about graphics recognition methods. The workshops enjoy strong participation from researchers in both industry and academia.

Topics
- Relevant topics of interest include, but are not limited to:
- Raster-to-vector techniques.
- Recognition of graphical primitives.
- Recognition of graphic symbols in charts,   diagrams, and drawings.
- Interpretation of engineering drawings, maps, charts, tables, and other graphical documents.
- Graphics-based information retrieval.
- Historical graphic indexing.
- Description of complete systems for interpretation of graphic documents.
- Performance evaluation in graphics recognition.
- Authoring, editing, storing and presentation systems for graphics multimedia documents.
- 3-D models from multiple 2-D views (line drawings).
- Identification and localization of graphical mark-ups and annotations in written documents.
- Digital ink processing.
- Sketch recognition and understanding.

Special Track on Document Element Recognition
Document elements such as tables, figures, algorithms, equations, flowcharts, CAD/CAM diagrams, etc. need specialized recognition techniques. A special track will be devoted to papers on a wide range of topics related to document element recognition including, but, not limited to, models, recognition techniques including segmenters, parsers, and inference of document elements, document element understanding, and retrieval.

More information at: http://www.sage-eniso.org/grec2015

The call for paper is now available.

The GREC 2015 organizing committee

DRR 2015: Call for Participation

Document Recognition and Retrieval XXII (DRR 2015)
San Francisco, February 11-12, 2015
http://spie.org/EI/conferencedetails/document-recognition-retrieval

Document Recognition and Retrieval (DRR) is one month away. Come join us in San Francisco for one of the leading international conferences devoted to current research in document analysis, recognition and retrieval.
The 22nd Document Recognition and Retrieval Conference is being held as part of the IS&T/SPIE Electronic Imaging Symposium taking place in San Francisco, California, USA at the Hilton San Francisco Union Square in the heart of town.

The Conference Chairs and Program Committee invite all researchers interested in document recognition and retrieval to attend for the presentation of original research papers and invited talks by Dan Klein of the University of California, Berkeley, and Brewster Kahle of the Internet Archive.

INVITED TALKS
- Dan Klein, Feb.11: "Printing presses and polyphonic pianos: unsupervised transcription for documents and music".
- Brewster Kahle, Feb.12: "The internet archive: challenges and solutions for large scale document repositories".

PROGRAM
The program is available: http://spie.org/EI/conferencedetails/document-recognition-retrieval

CONFERENCE CHAIRS
- Eric K. Ringger, Brigham Young Univ. (United States)
- Bart Lamiroy, Université de Lorraine & LORIA (France)

For more information visit http://nlp.cs.byu.edu/drr2015.
Questions concerning the conference may also be addressed to: drr2015@googlegroups.com

ICDAR 2015 Doctoral Consortium: Call for participation

In 2011 the Leadership Teams of TC-10 and TC-11 agreed to jointly organize the first Doctoral Consortium in conjunction with ICDAR 2011 which lead to a successor event that took place in conjunction with ICDAR 2013. Given the great success of these initial events the tradition of Doctoral Consortiums as satelite events to ICDAR conferences will be continued.

The goal of the ICDAR 2015 Doctoral Consortium is to create an opportunity for Ph.D. students to test their research ideas, present their current progress and future plans, and receive constructive criticism and insights related to their future work and career perspectives. A mentor (a senior researcher who is active in the field) will be assigned to each student to provide individual feedback. In addition, students will have the opportunity to present an overview of their research plan during a special poster session.

Participation in the ICDAR 2015 Doctoral Consortium will be be limited to 25 students. Prospective participants are encouraged to submit their application by May 15 (submission procedure to be announced). The Doctoral Consortium Chairs will then review all applications received. Preference will be given to students who are at a stage in their studies most likely to benefit (i.e., they have identified a research direction and published some initial results, but the thesis is not yet set in stone). As in previous years, the event will be organized such that the registration fees for participating students will be minimal. The ICDAR 2015 Doctoral Consortium will take place the day before the main conference, i.e., on August 23.

Important dates
- Submission deadline: May 15
- Acceptance notification and Mentor assignment: May 31
- Final material due: July 10
- Doctoral Consortium: August 23

We are looking forward to your participation!

Alicia Fornés & Gernot A. Fink
ICDAR 2015 Doctoral Consortium Chairs

Call for participation: ICDAR 2015 Competitions

International Conference on Document Analysis and Recognition

The list of competitions have been announced: http://2015.icdar.org/activities/competitions/

- **Smartphone Document Capture and OCR Competition (SmartDoc)**
  http://l3i.univ-larochelle.fr/icdar2015smartdoc

- **Multi-script Writer Identification and Gender Classification Competition using "QUWI" Database**
http://www.univ-tebessa.dz/ICDAR2015/default.htm

HTRtS: Handwritten Text Recognition onthe tranScriptorium Dataset (second edition)
http://transcriptorium.eu/~htrcontest/

MS-TEx: MultiSpectral Text Extraction Contest
http://www.synchromedia.ca/competition/ICDAR/mstexicdar2015.html

Competition on Text Reading in the Wild
http://icdar2015.imageplusplus.com/

Competition onText Image Super-Resolution
http://liris.cnrs.fr/icdar-sr2015/

Competition onMulti-font and Multi-size digitally RepresentedArabic Text
http://diuf.unifr.ch/diva/APTI/competitionICDAR2015.html

Writer Identification Competition using KHATT, AHTID/MW and IBHC Databases
http://diuf.unifr.ch/diva/APTI/ICDAR2015WIComp.pdf

Competition on Keyword Spotting for Handwritten Documents
http://transcriptorium.eu/~icdar15kws/

Signature Verification and Writer Identification Competitions for On- and Offline Skilled Forgeries (SigWIComp2015)
http://www.dfki.uni-kl.de/afha2015/SigWiComp.html

Robust Reading Competition
http://158.109.8.55/

Competition on Video Script Identification (CVSI-2015)
http://www.ict.griffith.edu.au/cvsi2015/

Handwritten CAPTCHA Evaluation Challenge
http://www.cubs.buffalo.edu/icdar2015captchaevaluation

Competition on Historical Book Recognition (HBR2015)
http://www.primaresearch.org/HBR2015

Competition on Recognition of Documents with Complex Layouts (RDCL2015)
http://www.primaresearch.org/RDCL2015

Competition on Scene Text Rectification
http://ocrservice.tsinghua.edu.cn/icdar2015_str/

Competition on Word Clustering of Segmented Historical Documents
http://collections.ancestry.com/DART-2015-WordCluster

Competition on Text Line Detection in Historical Documents
http://collections.ancestry.com/DART-2015-TextLines

CBDAR 2015: First Announcement

6th Int. Workshop on Camera Based Document Analysis and Recognition
http://www.cvc.uab.es/CBDAR2015

The 6th International Workshop on Camera Based Document Analysis and Recognition (CBDAR 2015) will be held in Gammarth, Tunisia, on August 22nd 2015 in conjunction with ICDAR 2015.

The pervasiveness and widespread availability of camera phones, hand-held digital still/video cameras and more recently wearable cameras have led the community to recognize camera captured images as a promising and growing field of research for document analysis and recognition. Document digitization techniques are gradually getting closer to camera based solutions, offering certain advantages (e.g. for scanning large scale or fragile documents), and presenting interesting new challenges and open problems which cannot be directly resolved by traditional techniques.

Building on the success of the previous five CBDAR workshops in 2005 (Seoul, Korea), 2007 (Curitiba, Brazil), 2009 (Barcelona, Spain), 2011 (Beijing, China), and Washington DC (USA), CBDAR 2015 will be held in Gammarth, Tunisia in conjunction with ICDAR 2015. The aim of the workshop is to provide a natural link between document image analysis and the wider computer vision community by attracting cutting edge research on the topic.

Topics of Interest
- camera based acquisition of written information
- restoration of camera captured documents (dewarping, deblurring, etc.)
- image degradation models for camera captured characters/documents
- document image quality analysis
- character segmentation / recognition from scene images
- layout analysis for camera captured documents
- text in video
- document image retrieval
- devices and algorithms for camera-based document analysis and recognition

- device constrained techniques and algorithms
- performance evaluation and metrics
- applications such as translation, reading text for the blind, etc
- human-document interaction

Workshop Chairs
- Dr Dimosthenis Karatzas (Computer Vision Centre - Spain)
- Dr Faisal Shafait (University of Western Australia -Australia)

Workshop Format
CBDAR is a 100% participation, one-day, single-track workshop featuring keynote talks, oral/poster presentations, a demo session, and a panel discussion.

Publications
Electronic copies of the workshop proceedings containing all contributed papers will be distributed at the workshop. After the workshop, revised versions of selected papers will be published in Springer LNCS series as post-proceedings.

Submission Information
CBDAR 2015 invites the submission of original, previously unpublished work and welcomes, with some restrictions, submissions which are closely related to work submitted to ICDAR 2015. This workshop employs single-blind review, in which referees remain anonymous for the authors throughout the process. Papers should not exceed 6 printed pages in IEEE CS format. Full details of the formatting instructions, a sample document and templates for LaTeX and MS-Word users will be available at the CBDAR 2015 homepage soon.

Important Dates
- Paper submission due: May 15, 2015
- Author Notification: June 25, 2015
- Camera-ready paper due: July 8, 2015

IJDAR articles alert

Volume 17, Issue 4
http://link.springer.com/journal/10032/17/4/page/1

- Multi-class segmentation of free-form online documents with tree conditional random fields
  Adrien Delaye, Cheng-Lin Liu

- Multimodal page classification in administrative document image streams
  Marçal Rusiñol, Volkmar Frinken, Dimosthenis Karatzas, Andrew D. Bagdanov, Josep Lladós

- Word searching in unconstrained layout using character pair coding
  Partha Pratim Roy, Umapada Pal, Josep Lladós

- Lexicon reduction for printed Farsi subwords using pictorial and textual dictionaries
  Homa Davoudi, Ehsanollah Kabir

- Feature combination for binary pattern classification
  Ehtesham Hassan, Santanu Chaudhury, M. Gopal

- Adaptive binarization of severely degraded and non-uniformly illuminated documents
  Brij Mohan Singh, Rahul Sharma, Debashis Ghosh, Ankush Mittal

- A benchmark image database of isolated Bangla handwritten compound characters
  Nibaran Das, Kallol Acharya, Ram Sarkar, Subhadip Basu, Mahantapas Kundu, Mita Nasipuri

- Efficient skew detection of printed document images based on novel combination of enhanced profiles
  A. Papandreou, B. Gatos, S. J. Perantonis, I. Gerardis

- Handwriting synthesis: classifications and techniques
  Yousef Elarian, Radwan Abdel-Aal, Irfan Ahmad, Mohammad Tanvir Parvez, Abdelmalek Zidouri

We encourage researchers to send the link to any relevant article related to graphics recognition to: afornes@cvc.uab.es

Handbook of Document Image Processing and Recognition

Handbook of Document Image Processing and Recognition
D. Doermann, K. Tombre (Eds.)

The Handbook of Document Image Processing and Recognition provides a consistent, comprehensive resource on the available methods and techniques in document image processing and recognition. It includes unified comparison and contrast analysis of algorithms in standard table formats. Thus, it educates the reader in order to help them to make informed decisions on their particular problems.

This reference work is intended for the use by a wide audience of readers from around the world such as graduate students, researchers, librarians, lecturers, professionals, and many other people.

For more information, visit: this link

Call for papers: IGS 2015

Conference of the International Graphonomics Society
Guadeloupe, June 21-24, 2015
http://www.graphonomics.org/igs2015/

The 17th conference of the International Graphonomics Society (IGS 2015), will be hosted in Guadeloupe, June 21-24, 2015.

The theme of the Conference is "Drawing, Handwriting Processing and Analysis: New Advances and Challenges". It will be a single track international forum for discussion on recent advances in the fields of pattern recognition, science, humanities, arts and technology of Graphonomics.

Selected papers will be submitted in Special Issue of journals: Human Movement Science, IEEE Transactions on Human-Machine Systems and the Journal of Forensic Document Examination

Important dates
- 10 December, 2014 : paper submission
- 28 February, 2015 : notification of acceptance/rejection
- 28 March, 2015 : camera ready paper
- 28 March, 2015 : author registration

Best regards,
Eric Anquetil

Call for papers: ICDAR 2015

IAPR 13th International Conference on Document Analysis and Recognition (ICDAR 2015)
Tunis, Tunisia, 23-26 August 2015

http://2015.icdar.org/

ICDAR is the premier international forum for researchers and practitioners in the document analysis community for identifying, encouraging and exchanging ideas on the state-of-the-art technology in document analysis, understanding, retrieval, and performance evaluation. The term document in the context of ICDAR encompasses a broad range of documents from historical forms such as palm leaves and papyrus to traditional documents and modern multimedia documents.

ICDAR 2015 is sponsored by the International Association for Pattern Recognition (IAPR) and technically co-sponsored by TC-10 (Graphics Recognition), TC-11(Reading Systems), IEEE Computer Society (pending approval), IEEE Region 8 (pending approval), and Tunisian Chapter of the IEEE Computer Society.

The conference program will include workshops, tutorials, competitions, and doctoral consortium, along with prominent keynote speakers and paper presentations.

The conference includes the following areas:
- Character and symbol recognition
- Printed/Handwritten text recognition
- Graphics analysis and recognition
- Document analysis
- Document understanding
- Historical documents and digital libraries
- Document based forensics
- Camera and video based scene text analysis

Important Dates
- Workshops, Tutorials and Competitions Proposal Due: December 15, 2014
- Abstract submission: **January 31, 2015**
- Paper submission: **February 10, 2015** (extended)
- Acceptance: April 30, 2015
- Doctoral Consortium: April 15, 2015
- Camera-ready due: May 15, 2015

Author Guidelines
Prospective authors are invited to submit original and high-quality work for presentation at the IAPR ICDAR 2015.
https://www.easychair.org/conferences/?conf=icdar2015

ICDAR 2015 Robust Reading Competition: Call for Participation

"Robust Reading" refers to the research area dealing with the interpretation of written communication in unconstrained settings. Robust Reading is at the meeting point between camera based document analysis and scene interpretation. The ICDAR Robust Reading Competition is organized around challenges selected to cover a wide range of real-world situations, which are in turn set up around different research tasks.

The ICDAR 2015 Robust Reading competition will build upon the success of the previous editions and will introduce two key changes. First, a new "end-to-end" task is introduced aiming at simultaneous word localisation and recognition in images and videos. Second, a Challenge on incidental text is introduced based on a new large dataset (in the thousands of images), the focus of this challenge is on text that appears in the scene without the user having taken any specific prior action to cause its appearance or improve its positioning / quality in the image.

Participation is welcome in any Task and Challenge in an open mode
(submission of results over a provided test set).

Lead Organizers
- Dimosthenis Karatzas   (Computer Vision Centre, Barcelona, Spain)
- Seiichi Uchida   (Kyushu University, Fukuoka, Japan)
- Masakazu Iwamura   (Osaka Prefecture University, Osaka, Japan)
- Faisal Shafait   (University of Western Australia)

Collaborators
- Vijay Chadrasekhar   (Institute for Infocomm Research, Singapore)
- Jiri Matas   (Czech Technical University, Czech Republic)
- Lukas Neumann   (Czech Technical University, Czech Republic)
- Lu Shijan   (Institute for Infocomm Research, Singapore)
- Lluis Gomez   (Computer Vision Centre, Barcelona, Spain)
- Suman Ghosh   (Computer Vision Centre, Barcelona, Spain)
- Anguelos Nicolaou   (Computer Vision Centre, Barcelona, Spain)
- Ernest Valveny   (Computer Vision Centre, Barcelona, Spain)

Important Dates
- Registration of interest: until 31 March
- Datasets available: 28 February
- Submission of results due: 31 March
- Method descriptions due: 3 April
- Announcement of Results: 22 August

ICDAR2015 Competition
HTRtS: Handwritten Text Recognition on the tranScriptorium Dataset

The "ICDAR2015 Competition HTRtS: Handwritten Text Recognition on the tranScriptorium Dataset" competition is organised in the framework of the ICDAR 2015 competitions by the Pattern Recognition and Human Language Technologies research centre with the collaboration of the tranScriptorium partners. This contest aims to bring together researchers working on off-line Handwritten Text Recognition (HTR) and provide them a suitable benchmark to compare their techniques on the task of transcribing typical historical handwritten documents. The first edition of this contest HTRtS2014 was organised in the ICFHR 2014.

The proposed dataset consists of a series of documents from the Bentham collection, which has been prepared in the tranScriptorium project. This dataset includes manuscripts written by Jeremy Bentham (1748-1832) himself over a period of sixty years, as well as fair copies written by Bentham's secretarial staff. Handwriting in this collection is complex enough to challenge the HTR software: manuscripts written by secretarial staff will provide variety, while Bentham's manuscripts are often complicated by deletions, marginalia, interlineal additions and other features. The data used in this contest is closely related to the data used in the ICDAR2015 Competition on Keyword Spotting for Handwritten Documents (http://transcriptorium.eu/~icdar15kws/).

The dataset for this competition is composed of 796 pages; most of the pages consist of a single block with many difficulties for line detection and extraction (see page samples below). The dataset is divided into 3 batches for the competition: 2 batches for training (batch 1 and batch 2) and 1 batch for test (batch 3). The number of writers is unknown (see web pages for detail).

DESCRIPTION AND GOALS
The systems entering this contest should try to obtain the most accurate recognition results in the test partition.

The available data for batch 1 will consist of:
1. The original images of all the training pages
2. The PAGE file corresponding to each page image. For each text line in this image, the PAGE file contains
   a bounding polygon and the corresponding correct transcript.
3. The preprocessed and extracted line images for all the lines of the training and validation sets in grayscale.
4. A sequence of feature vectors for each line.
5. The corresponding transcripts of each of these lines.

Items 1 and 2 are redundant with items 3 and 5 and are provided for those who wish to try improving results by using specific image preprocessing and line extraction tools. Item 4 is provided for those who do not wish to try

improving results at pre-processing and feature extraction level.

The available data for the batch 2 will consist of:
1. The original images of all the training pages.
2. The PAGE file corresponding to each page image. The PAGE file contains the bounding polygon for the text
   regions, not for the line regions.
3. For the text regions, a separated file with the corresponding correct transcripts will be provided.

The test images (batch 3), with the transcript fields empty, will be eventually provided in the same (redundant)
formats as first batch for evaluation purposes (see schedule below).

A baseline system based on HTK hidden Markov models and SRILM language modelling will be provided, including a set of scripts to
perform a basic training and test experiment (using batch 1). The participants can use this baseline
system as an initial approach to their own systems, where they will be allowed to improve this baseline by changing one or several
of the following steps:

- page-level pre-processing and line extraction
- line pre-processing and normalisation
- feature extraction
- recognition system and/or approach
- types of character, lexical and/or language models
- etc.

Several submissions per participant will be allowed and all the results will be considered when presenting the
competition results. In each submission, the participant must provide a brief description of the characteristics
of the submitted system, emphasising the main characteristics of the submitted system. The final goal is to analyse
the different proposals of the participants.

EVALUATION MODALITIES
The evaluation will be performed on the transcription results provided by each recognition system. The evaluation
metric will be the Word Error Rate (WER) between the reference transcript and the transcript provided by the system from each line.
The winner will be the system which obtains the least WER on the test set. A web-based platform will be available for the
participants to check their test results.

Two tracks are planned in this competition:
- Restricted track: in this track the participants can use only the data provided by the organisers for training
  and tuning their systems
- Unrestricted track: in this track the participants can use any data of their choice

The baseline system will be prepared only for the restricted track. It is mandatory that the entrants
participating in the "Unrestricted track" participate in the "Restricted track". The idea of this obligation
is to be able to compare several systems in analogous training conditions.

REGISTRATION AND ACCESS TO DATA
To register in this contest send an e-mail to jandreu_AT_dsic_DOT_upv_DOT_es with the subject
ICDAR 2015 HTRtS competition registration (see details in the web page).

SCHEDULE
- 19 Jan 2015 Competition opens, start of inscription period.
- 31 March 2015 Registration deadline (no more participants would be admitted).
- 31 March 2015 Test data available
- 7 Apr 2015 Deadline for systems results
- 15 Apr 2015 Deadline for sending short description of the submitted systems

ORGANISERS
- Joan Andreu Sanchez
- Veronica Romero
- Alejandro H. Toselli
- Enrique Vidal

Pattern Recognition and Human Language Technologies research centre
Universitat Politecnica de Valencia

ICFHR 2018: First Announcement

The 16th International Conference on Frontiers of Handwriting Recognition (ICFHR 2018) will be held in Rochester,
New York, USA on August 6-10, 2018.
Venu Govindaraju (University at Buffalo), R. Manmatha (University of Massachussets at Amherst),
and Richard Zanibbi (Rochester Institute of Technology) will serve as Converence Co-Chairs.

Call for papers

Event/Location/Web	Event Date	Deadline

		(paper submission)
ICDAR 2015, Gammarath, Tunisia Int. Conf. on Document Analysis and Recognition http://2015.icdar.org/	August 23-26, 2015	February 15, 2015 (**extended**) Abstract Submission January 31, 2015
IGS 2015, Guadeloupe, Caribbean island Conf. International Graphonomics Society http://www.graphonomics.org/igs2015/	June 21-24, 2015	February 2, 2015 (**extended**)
GREC 2015 (ICDAR workhop), Sousse, Tunisia Int. Workshop on Graphics Recognition http://www.sage-eniso.org/grec2015/	August 20-21, 2015	May, 2015
CBDAR 2015 (ICDAR workhop), Tunisia Int. Workshop on Camera Based Document Analysis and Recognition http://www.cvc.uab.es/CBDAR2015	August 22, 2015	May 15, 2015
ACPR 2015, Kuala Lumpur, Malaysia Asian Conf. on Pattern Recognition http://acpr2015.org/	November 3-6, 2015	June 1, 2015
ICCV 2015, Santiago, Chile Int. Conf. on Computer Vision http://pamitc.org/iccv15/	December 13-16, 2015	April 15, 2015 (paper registration) April 22, 2015 (paper submission)
DRR 2015, San Francisco, USA Document Recognition and Retrieval XXII http://spie.org/EI/conferencedetails/document-recognition-retrieval	February 11-12, 2015	(passed)
GbR 2015: Beijing, China IAPR-TC15 Workshop on Graph-based Representations in Pattern Recognition http://www.nlpr.ia.ac.cn/gbr2015/	May 13-15, 2015	(passed)
CVPR 2015: Boston, USA Computer Vision and Pattern Recognition http://www.pamitc.org/cvpr15/	June 8-10, 2015	(passed)
SCIA 2015, Copenhagen, Denmark Scandinavian Conference on Image Analysis http://www.scia2015.org/	June 15-17, 2015	(passed)
IbPRIA 2015: Santiago de Compostela, Spain Iberian Conference on Pattern Recognition and Image Analysis http://www.ibpria.org/2015/	June 17-19, 2015	(passed)

Call for datasets

We would like to remind you that the TC10 and TC11 Web sites always welcome contributions of new datasets or other resources related to the community. We would like to encourage all the TC10 and TC11 members to submit such material to the TC10 and TC11 for archiving. The availability of datasets, ground truth and performance evaluation tools online is not only good practice, but also a requirement for a field to progress.

We would like make a special request to the organizers of recent and future competitions. Independently of whether you have the competition datasets and evaluation tools available through other Web sites, please consider archiving them with TC10 / TC11 as well. Web sites often go off-line and useful resources are frequently lost forever.

Please check the TC10 site on information about how to submit datasets for archiving.
http://iapr-tc10.univ-lr.fr/index.php/datasets-and-software

Marcus Liwicki and Bart Lamiroy
TC-11 and TC-10 Dataset Curators