CMC-core: A basic schema for encoding corpora of computer-mediated communication in TEI

Michael Beißwenger, Harald Lüngen, Laura Herzberg, Ciara R. Wigham

CMC-core: A basic schema for encoding corpora of computer-mediated communication in TEI

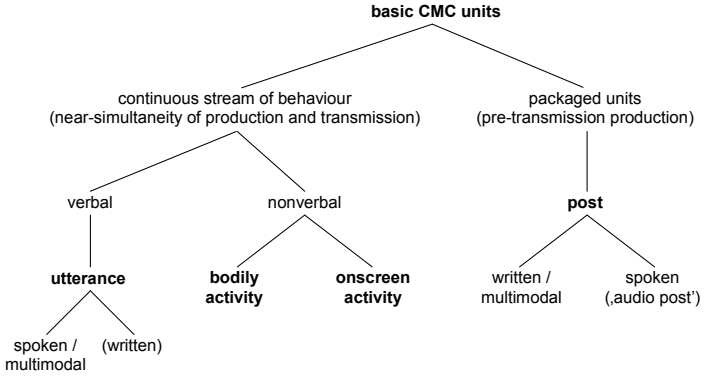
Michael Beißwenger, Universität Duisburg Essen, DE
Harald Lüngen, Leibniz-Institut für Deutsche Sprache, Mannheim, DE
Laura Herzberg, Universität Mannheim, DE
Ciara R. Wigham, Université Clermont Auvergne, FR

Motivation

A standard for the TEI representation of CMC corpora is needed for three purposes:

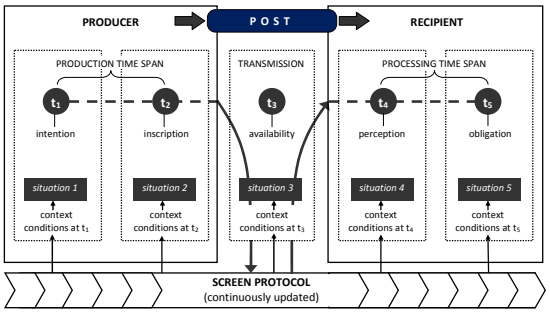
- as a prerequisite for the exchange, interconnection, and combined analysis of CMC corpora of different origins, different languages, and different genres – i.e. for the interoperability and sustainability of CMC corpora,
- to facilitate the merging and combined analysis of CMC corpora with corpora of other types, namely text corpora and spoken language corpora,
- for the integration and exploitation of CMC corpora in existing language resource infrastructures and with established tools.

Basic units of CMC discourse



CMC unit	type of data		TEI-P5 model
utterance (spoken / multimodal)	transcription of speech	⇨	<u> (utterance)
bodily activity	textual description	⇨	<kinesic>
onscreen activity	transcription or textual description	⇨	<incident>
post	a stretch of text submitted to the server at once (function: perform next move in a sequential interaction)	⇨	?

Temporal (and resulting *pragmatic*) peculiarities of *post-based CMC* (instantiation: chat)



The TEI special interest group *Computer-Mediated Communication*

Goal (2013)

- provide encoding schemas for representing CMC corpora, compatible with the TEI framework (as 'TEI customizations')

Goal (2017)

- develop the schemas further and transform them into *a TEI Feature Request,* making an official proposal for an extension of the TEI standard with specific models for CMC

Results (until 2019)

- Three schemas (TEI customizations), used for encoding CMC corpora for a range of projects and genres
  - *DeRiK schema:* Beißwenger et al. 2012
  - *CoMeRe schema:* Chanier et al. 2014
  - *CLARIN-D schema:* Lüngen et al. 2016
- Assessment of encoding experiences at TEI, DARIAH and CLARIN events, as part of the German DFG network Empirikom and the French CoMeRe network, at the CMC-CORPORA conferences and at a workshop on standards for CMC corpora.
- The ***CMC-core schema*** unifying models of all three previous schemas applying a "reduce to the max" maxim (2018/19) ⇨ Basis for a Feature Request to the TEI Council to implement these models as part of the official standard in late 2019.

CMC-core in a nutshell

CMC-core is encoded as an ODD that extends the official TEI by introducing four types of specifications

(1) The new module *cmc:* groups the new CMC-specific features so that they can be selected or deselected for a schema at once.

(2) The new model class *model.divPart.cmc*: contains <post> and makes it available on the divPart level, i.e. allows for combining <post>, <u>, <kinesic>, <incident> on the same level (Listing 4).

(3) The new element <post> along with the three new, <post>-specific attributes @mode, @replyTo, and @indentLevel (Listings 1,2).

(4) The new attribute class *att.global.cmc* containing the new, global attribute *@creation* for encoding how the text content was created in the CMC environment. Possible values: "human", "template", "system", "bot", "unspecified".

References

Beißwenger, Michael, Maria Ermakova, Alexander Geyken, Lothar Lemnitzer & Angelika Storrer (2012): A TEI Schema for the Representation of Computer-mediated Communication. Journal of the Text Encoding Initiative 3. http://jtei.revues.org/476 (DOI: 10.4000/jtei.476) (30.08.2019).

Beißwenger, Michael; Lüngen, Harald (2019, under review): *CMC-core:* a schema for the representation of CMC corpora in TEI. Submitted for: Céline Poudat, Ciara R. Wigham & Loïc Liégeois (eds.): Corpus complexes. Traitements, standardisation et analyse des corpus de communication médiée par les réseaux.

Chanier, Thierry, Celine Poudat, Benoit Sagot, Georges Antoniadis, Ciara Wigham, Linda Hriba, Julien Longhi & Djamé Seddah (2014): The CoMeRe corpus for French: structuring and annotating heterogeneous CMC genres. Journal of language Technology and Computational Linguistics 29 (2), 1–30. http://www.jlcl.org/2014_Heft2/1Chanier-et-al.pdf (30.08.2019).

Lüngen, Harald, Michael Beißwenger, Axel Herold & Angelika Storrer (2016): Integrating corpora of computer-mediated communication in CLARIN-D: Results from the curation project ChatCorpus2CLARIN. In Stefanie Dipper, Friedrich Neubarth & Heike Zinsmeister (Eds.), Proceedings of the 13th Conference on Natural Language Processing (KONVENS 2016), 1561–64.

Encoding examples

```
<div type="thread">
  <head>Naturally occurring?</head>
  <post mode="written" xml:id="p4" indentLevel="0" who="#u005"
    synch="#t005">
    <p>I'm not sure that this is a proper criterium, or even what this means.
      What if we set an explosion that breaks a comet into two pieces? What if
      we build a moon? Cheers, <signed creation="template"><ref
        target="/wiki/User:Greenodd">Greenodd</ref> (<ref
        target="/wiki/User_talk:Greenodd">talk</ref>) <time>01:00, 21
        July 2011 (UTC)</time></signed>
    </p>
  </post>
  <post mode="written" xml:id="p5" indentLevel="1" replyTo="#p4"
    who="#u006" synch="#t006">
    <p>Those haven't happened. If they do, we can revisit the concern. <signed
      creation="template"><ref target="/wiki/User:Praemonitus"
      >Praemonitus</ref> (<ref target="/wiki/User_talk:Praemonitus"
      >talk</ref>) <time>01:15, 1 April 2015 (UTC)</time></signed>
    </p>
  </post>
</div>
```

Listing 1: Discussion thread on a Wikipedia talk page

```
<post mode="spoken" creation="human" synch="#t003" who="#A05"
    xml:id="m7"> Sagt Anne auch gerade. JA! Kann ich zustimmen. </post>
<post mode="written" creation="human" synch="#t003" who="#A02"
    xml:id="m8"> Da kostet ein Haarschnitt 50 € <figure type="emoji"
      creation="template">
      <desc type="meaning">face screaming in fear</desc>
      <desc type="unicode">U+1F631</desc>
    </figure>
</post>
```

Listing 2: Written and spoken post in WhatsApp chat interaction, from MoCoDa2 (2018)

```
<post xml:id="p5" type="comment" who="#u4" synch="#t005" replyTo="#p4">
  <p>"Wenn Sie diesen Gruppen also "mangelnde Bildung" attestieren wollen,
    so verwenden Sie bereits einen bestimmten, kulturgebundenen Bildungsbe
    griff."</p>
  <p>Ich hoffe doch, wir können beim Bildungsbegriff der Aufklärung
    bleiben. Wer das nicht möchte, hat die Wissenschaft
    verlassen.</p>
</post>
```

Listing 3: Blog comment replying to a previous comment, from the Scilogs corpus (Grumt Suárez et al. 2016).

```
<text>
  <body>
    <u xml:id="cmr-archi21-slrefl-es-j3-1-a191" who="#tingrabu"
      start="#cmr-archi21-slrefl-es-j3-1-ts373"
      end="#cmr-archi21-slrefl-es-j3-1-ts430">ok hm for me this
      presentation was hm <pause dur="PT1S" /> become too fast because
      it's always the same in our architecture school euh we have not
      time and hm <pause dur="PT1S" /> too quickly sorry […]
    </u>
    <kinesic xml:id="cmr-archi21-slrefl-es-j3-1-a192" who="#romeorez"
      start="#cmr-archi21-slrefl-es-j3-1-ts376"
      end="#cmr-archi21-slrefl-es-j3-1-ts377" type="body"
      subtype="kinesics">
      <desc>
        <code>eat(popcorn)</code>
      </desc>
    </kinesic> […]
    <post mode="written" creation="human"
      xml:id="cmr-archi21-slrefl-es-j3-1-a195" who="#tfrez2"
      start="#cmr-archi21-slrefl-es-j3-1-ts380"
      end="#cmr-archi21-slrefl-es-j3-1-ts381" type="chat-message">
      <p>it went too quickly?</p>
    </post> […]
```

Listing 4: Second Life *multimodal* chat example, adapted to *CMC-core*, from Chanier & Wigham (2015).

Grab your own copy of ***CMC-core***: **https://wiki.tei-c.org/index.php?title=SIG:CMC** (as of October 2019)