MANUAL AND AUTOMATIC ANNOTATION OF MEETING REPORTS WITH YOUNG OFFENDERS FOR QUALITY ASSESSMENT OF INTERVENTIONS

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ANNOTATION IN DIGITAL HUMANITIES WORKSHOP
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OVERVIEW

• Project’s context
• Manual annotations
  • Task
  • Tool
  • Outcome
• Automatic annotations
• Next steps
PROJECT’S CONTEXT

Offense  Sentence  Risk profile  Interventions  End of sentence

PROJECT’S CONTEXT

RISKS EXEMPLES

• Antisocial personality
• Delinquent peers
• Family conflicts
• Poor performance at school or at work
• Drug abuse
PROJECT’S CONTEXT

RISK PROFILE
• Find the root causes of the delinquency

REPORTS
• Detail of the interventions, what’s being talked about, etc.
• Noisy, abbreviations, typos, various language level, 1 sentence to multiple paragraphs

GOALS (CRIMINOLOGY)
• Are the interventions aligned with the risk profile?
• What are the unaligned interventions?
• What kind of interventions are they choosing over others?
MANUAL ANNOTATION: TASK

PROCESS

Youth protection organism → Data acquisition → ~300k → Cleanup, filter, Preprocess, import → PACTE

Protocol tune-up (x 5) → Designed schema → Batch distribution → Project creation

Annotators → ~500 reports → Curator

Training → Evaluation
MANUAL ANNOTATION : TASK

- **ADMINISTRATIVE*** (conditions, community work, help, intervention plan)
- **ANTECEDENTS** (reinforce, alternative)
- **ATTITUDE** (motivation, prosocial institution valorisation and value restructuration)
- **CONSUMPTION** (solution, reduction)
- **FAMILY/COUPLE** (relationship, supervision, couple)
- **HOBBIES** (sports, gym, extracurricular, religious activities)
- **PEERS** (reduction, valorisation)
- **PERSONALITY** (anger management, improving problem, resolution skills, discourage manipulation of others or egocentrism)
- **OCCUPATIONAL SCHOOL/WORK** (help, participation, engagement, satisfaction, relationship)
PACTE PLATFORM (http://pacte.crim.ca)
- Flexible schema design
- Corpus creation
- Multisteps project management
- Other modules
  - Lexicon
  - User rights management
  - Resource sharing
  - Automated annotation services
Edit schema "Occupationnel2"

Target: Document 1D surface

Attention, une modification de la cible entraîne un changement de toutes les informations du schéma

Title: Occupationnel2

Type name: Occupationnel2

Description:

Version:

Property: SousType

Name: SousType

Special characters aren't allowed for the property name, consider using the 'camelCase' format

Type: String

Description:

Type d'intervention

Required: ✓

Searchable: ✓

Enumeration: ✓

Enum values (one value per line):
- Aide
- Participation
- Engagement
- Satisfaction
- Relations
Nous rencontrons [mask] dans le cadre de son suivi.

Reprérons la situation de la semaine dernière alors qu'il a manqué son R-V.

Demander s'il est allé faire le cours de karaté. Nous dit que non.

[mask] dit que se montrer plus responsable envers sa condition [mask].

Affirme que tout va bien à la maison, il nous donne rarement beaucoup d'infos en ce sens.

Pour ses cartes, Opus et Maladie, lui mentionnons qu'il a notre avis, tout cela tranche en longueur [mask] souhaite remettre le blâme sur sa mère.
### MANUAL ANNOTATION: OUTCOME

#### SPEECH ACTS (SEARLE 1969)

- **CONSTATIVE**

<table>
<thead>
<tr>
<th>Expression</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add</td>
<td>&quot;Nous ajoutons dans son CV&quot; (We add to his resume)</td>
</tr>
</tbody>
</table>
| Address    | "J’aborde la révision..." (I address the revision)  
             "On aborde chacun des point" (We address each point) |
| Announce   | "Je luiannonce" (I announce him) |
| Discuss    | "Discutons du plan..." (Discussing the plan)  
             "Discussion sur " (Discussion on")  
             "nous avons discuté des ..." (We have discussed about the) |
| Explore    | "Nous tentons d’explorer ses pensées..." (We try to explore his toughts) |

<table>
<thead>
<tr>
<th>Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explain</td>
<td>&quot;M’explique qu’entre chaque cours&quot; ((He) explain that between each course)</td>
</tr>
<tr>
<td>Expose</td>
<td>&quot;Je lui expose la situation&quot; (I expose him the situation)</td>
</tr>
<tr>
<td>Inform</td>
<td>&quot;Informons que nous avons&quot; (We inform that we have)</td>
</tr>
<tr>
<td>Return</td>
<td>&quot;Retour sur la révision&quot; (Return on the revision)</td>
</tr>
<tr>
<td>Read</td>
<td>&quot;Je lui lit les conditions &quot; (I read him the conditions)</td>
</tr>
<tr>
<td>Repeat</td>
<td>&quot;Nous devons lui faire répéter certains propos&quot; (We must make him repeat some points)</td>
</tr>
</tbody>
</table>
| Talk       | "Nous parlons de ses travaux" (We talk about his work)  
             "Lui parlons du ..." (Talk to him about) |
### Manual Annotation: Outcome

#### Reinforcement

<table>
<thead>
<tr>
<th>Expression</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congratulate</td>
<td>&quot;Le félicite d’emblée pr...&quot; (&quot;I readily congratulate him for&quot;)</td>
</tr>
<tr>
<td>Reinforce</td>
<td>&quot;Je le renforce en le félicitant &quot; (&quot;I validate him by congratulating him&quot;)</td>
</tr>
<tr>
<td>Underline</td>
<td>&quot;Je lui souligne aussi que&quot; (&quot;I also point out to him him that&quot;)</td>
</tr>
</tbody>
</table>
### MANUAL ANNOTATION : OUTCOME

**COMMISSIVE**

<table>
<thead>
<tr>
<th>Expression</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Admit</td>
<td>&quot;Admet impulsivité.&quot; (Admits impulsivity)</td>
</tr>
</tbody>
</table>
## DIRECTIVE

<table>
<thead>
<tr>
<th>Expression</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ask</td>
<td>&quot;Je lui demande si&quot; (&quot;I ask him if&quot;)</td>
</tr>
<tr>
<td>Explain</td>
<td>&quot;M’explique qu’entre chaque cours&quot; ((He) explain that between each course)</td>
</tr>
<tr>
<td>Invite</td>
<td>&quot;Je l’invite à faire les bons choix &quot; (I invite him to make the right choices)</td>
</tr>
<tr>
<td>Question</td>
<td>&quot;Questionne à savoir où il se trouve&quot; (Question to know where he is)</td>
</tr>
<tr>
<td>Respond</td>
<td>&quot;Je lui répond que...&quot; (I answer him that)</td>
</tr>
</tbody>
</table>
SOME OBSERVATIONS

- **CONSTATIVE**: found in all categories
- **REINFORCEMENT AND COMMISSIVE**
  - Absent in Antecedent and Family/Couple
  - More frequently in Personality and Consumption
- **DIRECTIVE**
  - High frequency in Administrative and Occupational
AUTOMATIC ANNOTATION

USING THE TRAINING DATASET

- First level categorisation task on annotations (9 categories)
- BOW features
- Noisy stemming
- Multilabel report annotation (inconclusive)
- Performances on sentence classification
  - Rappel : 0.8160
  - Precision : 0.6301
  - F1-Mesure : 0.7116
NEXT STEPS

- SEQUENCE IDENTIFICATION
- INTEGRATE SPEECH ACTS AS FEATURES
- PROVIDE ANNOTATED CORPORA FOR QUALITY ASSESSMENT
- FURTHER ANALYSE THE DATA FROM LINGUISTIC POINT-OF-VIEW
- DEVELOP OTHER RELATED AUTOMATIC ANNOTATION SERVICES
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PACTE annotation platform (free for academic projects) :
http://pacte.crim.ca