PRECIS Framework Implementation

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Purposes of the implementation

1. To evaluate whether precis framework can be implemented.

2. To examine whether implementations based on IDNA2008 have useful features for precis framework implementations.

3. To evaluate whether precis framework implementations for some protocols have common feature.

Targets of implementation and processes

			SASLprepbis		nickname	XMPPbis	
			User name	Password		local	Resource
Precis class			Name	Free	Free	Namesub	Free
precis Framework	Normalization	NFC	レ	レ	-	レ	レ
		NFKC	-	-	レ	-	-
	Casemapping		レ	-	レ	レ	レ
	Bidi rule		レ	レ	レ	レ	レ
Mappings Document	Width mapping		-	-	-	レ	レ
	Special mapping (Map to SPACE)		-	レ	レ	-	-
Removing leading and trailing whitespace			-	-	レ	-	-
Mapping space sequence to one space			-	-	レ	-	-

Summary of results(1/2)

1. SASLprepbis, nickname and XMPPbis could be implemented as one of precis framework profile.

2. Useful processes from an IDNA2008 implementation
   - Normalization
   - Casemapping
   - Width mapping
   - Delimiter mapping (Mapping ‘IDEOGRAPHIC FULL STOP’ (U+3002 ”。”) to 'FULL STOP' (U+002E))
     - Easy to modify for mapping a character to other character or nothing, like a mapping to SPACE.
   - Language based local mapping (Local case mapping)
   - Bidi Rule
   - Strings validity checking

Summary of results(2/2)

3. Common features and individual features
   - Common features
     - Width mapping
     - Mapping to SPACE
   - Individual features
     - Removing leading and trailing whitespace
     - Mapping space sequence to one space

Recommendation for protocol profile designers

- Protocol profile designers should consider following processes.
- Mappings document
  - Width mapping
  - Delimiter mapping
  - Special mapping
    - Mapping to SPACE
    - Mapping to nothing
  - Local case mapping
- Framework document
  - Normalization
  - Casemapping
  - Bidi rule
- Additional
  - Removing leading and trailing whitespace
  - Mapping space sequence to one space

Recommendation for developers

- Developers should prepare features in the previous slide as generic features for precis.
- Generic feature to convert sequence of specified characters into one specified character should be considered. Spaces to a space is one example.
- Having individual derived property tables for each protocol profile is waste of memory, so if a implementation supports multiple profiles, it should consider to shrink the tables into one.