User Centered Design in UniProt

User centered design
- User workshops and usability testing to gather feedback and new requirements
- Identify usability issues and design solutions
- Iterate by testing paper prototypes with users
- Implement designs and test beta site with users to refine further

Participants
- Define the profile of users to target (e.g., uses the web interface, wet lab based, supports researchers as bioinformatician...)
- Recruit users from help request logs, recommendations, web based research
- Set up a screening survey to get more information about user backgrounds

Analysis
- Complement qualitative research with quantitative data
- Integrate information from within the team (e.g., trainers, outreach)
- User emails, logs and web analytics to understand the bigger picture

Review
- In case of well-studied proteins, difficult to get an overview when having to scroll long feature tables
- Inconsistent representations for shared sequence features across resources confusing
- A summary of the relative distribution of features on the sequence needed

Design
- A summarised view of sequence features by collapsing them into categories
- Users can expand individual categories to show further detail
- Selecting sequence features highlights them in sequence and structure
- Users can switch between the canonical sequence and isoforms
- Collaboration with other groups at the EBI to agree on consistent representations of common sequence features

Future plans
- Integrating the feature viewer into the UniProt entry view to test with users
- Continued collaboration with other groups at the EBI to use shared representations for shared features

Testing Prototypes
- In case of well-studied proteins, difficult to get an overview when having to scroll long feature tables
- Inconsistent representations for shared sequence features across resources confusing
- A summary of the relative distribution of features on the sequence needed

Testing Prototypes
- Refining categorisation of features to make it intuitive for users through a card sorting exercise with UniProt curators
- Curators sorted sequence features into categories and names the categories, the consensus was used

Sequence Feature Viewer Case study

In case of well-studied proteins, difficult to get an overview when having to scroll long feature tables
Inconsistent representations for shared sequence features across resources confusing
A summary of the relative distribution of features on the sequence needed

Design Revisions

Future plans

UniProt is mainly supported by the National Institutes of Health (NIH) grant 1U41HG006104-01. Additional support for the EBI's involvement in UniProt comes from the NIH GO grant 2P41HG02273-07. UniProt activities at the SIB are additionally supported by the Swiss Federal Government through the Federal Office of Education and Science, and by the EC grants SLING (226073), GEN2PHEN (200754) and MICROME (222886-2). PIR's UniProt activities are also supported by the NIH grants 5R01GM080646-07, 3R01GM080646-07S1, 5G08LM010720-03, and 8P20GM103446-12, and the National Science Foundation (NSF) grant DBI-1062520.