

WIPO Mediation Case Management Database System

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Project Description

The purpose of this Database System is to provide a fast-track solution for the World Intellectual Property Organization (WIPO) Mediation Case Management. Currently, many processes in WIPO mediation, such as case initiation, admission of a mediator, and venue selection, are handled manually through email between the Claimant, Respondent, and Mediators. The database system addresses these challenges by introducing a centralized case management platform where mediation cases can be registered, mediators and venues can be assigned, and settlement drafts can be versioned in a structured way. In addition to streamlining case management, the system offers a unique compliance checker: a treaty-aware tool that assists mediators in verifying whether a mediated settlement will be enforceable in specific jurisdictions under the Singapore Convention on Mediation (SCM). Two existing software products that would benefit from this product are WIPO eARD, WIPO's case management tool, and Clio, the industry's #1 legal software; both aim to streamline legal workflows and improve efficiency, critically lacking a compliance checker. By integrating this database system, they can extend beyond administration into intelligent decision support, ensuring that mediated settlements are both procedurally sound and internationally enforceable.

Functional Requirements

1. User

- 1.1. A user shall create an account
- 1.2. A user shall be authenticated upon the creation of an account
- 1.3. A user shall have a unique tracking ID
- 1.4. A user shall be assigned as a party/mediator upon creation of an account
- 1.5. A user shall be able to delete their account and metadata

2. Permission

- 2.1. A permission shall be linkable to one or many users
- 2.2. A permission shall define allowed system actions(create, view, finalize)
- 2.3. A permission shall only have a case-level scope

3. Party

- 3.1. A party shall be a specialization of User
- 3.2. A party shall belong to a Country
- 3.3. A party shall have a name of its Company or Representative Counsel
- 3.4. A party can have none or many Cases
- 3.5. A party can accept or reject being a part of a case
- 3.6. A party can initiate a case
- 3.7. A party can accept or reject an assigned/recommended Mediator

- 3.8. A party shall be able to request/suggest a new Mediator
- 3.9. A party can accept or reject an assigned/recommended Venue
- 3.10. A party shall be able to request/suggest a venue
- 3.11. A party shall be able to accept or reject the outcome of a mediation

4. Mediator

- 4.1. A mediator shall be a specialization of User
- 4.2. A mediator shall be able to accept or reject mediation of a case
- 4.3. A mediator shall be able to edit and finalize the venue
- 4.4. A mediator shall be able to finalize the outcome of a case

5. Case

- 5.1. A case shall have a unique tracking ID
- 5.2. A case shall have a unique name (Company A vs Company B_Reason)
- 5.3. A case shall have two parties and a mediator
- 5.4. A case shall have a Start and an End date
- 5.5. A case shall be linked to a venue
- 5.6. A case shall have at least one or many Enforcement_target(s)
- 5.7. A case shall keep track of its lifecycle states (Intake, Screening, Sessions, Settled, Not_settled, Arbitration)

6. Clause

- 6.1. A clause shall be created upon case initiation by a party
- 6.2. A clause can be edited by the initiating party
- 6.3. A clause can be edited by a mediator

6.4. A clause shall be linked to a case upon finalization by a mediator

6.5. A clause shall have a unique tracking ID upon finalization

7. Venue

7.1. A venue shall have a unique tracking ID

7.2. A venue shall have a date

7.3. A venue shall have a recurring_date

7.4. A venue shall have a Location/Online

7.5. A venue shall specify the Language of mediation

8. Venue_Suggestion

8.1. A venue_suggestion shall be created upon case initiation by a party

8.2. A venue_suggestion can be edited by a party or a mediator

8.3. A venue_suggestion shall be linked to a case

9. Session

9.1. A meeting session shall be scheduled by a mediator

9.2. A session can be accepted or rejected by either party

9.3. A session shall be logged if all parties agree to attend

10. Language

10.1. One or many languages shall be linked to a mediator

10.2. One or many languages shall be linked to a party

10.3. One or many languages shall be linked to a case

11. Country

- 11.1. A country shall be stored with a unique ISO2 code and name
- 11.2. A country shall be able to be looked up using its ISO2 or name
- 11.3. A country shall have a Treaty_membership

12. Enforcement_target

- 12.1. One or more enforcement_targets shall be specified for a case
- 12.2. An enforcement_target shall be linked to a specific country
- 12.3. An enforcement_target shall be evaluated during compliance runs to determine treaty enforceability

13. Treaty_membership

- 13.1. A treaty_membership status shall be recorded for each country (party, signatory, non_party)
- 13.2. A treaty_membership shall record when (valid_from) a country becomes a party member of the Singapore Convention
- 13.3. A treaty_membership may be subjected to treaty_reservations

14. Compliance

- 14.1. The system shall run a compliance run for case_id
- 14.2. The compliance run has to check for compliance Rules
- 14.3. The compliance run has to be reproducible/yield the same results
- 14.4. The compliance check can have one outcome (Green, Amber, Red)

15. Rules

- 15.1. Rules shall apply to both parties
- 15.2. Rules shall affect the outcome of a compliance check
- 15.3. Rules shall include, but not be limited to (treaty_membership, enforcement_target, valid_from)

16. Summary

- 16.1. A case summary shall be generated upon the closing of a case
- 16.2. A case summary shall include the names of the parties and the mediator
- 16.3. A case summary shall be edited and finalized by a mediator

17. Case_outcome

- 17.1. A case_outcome shall be recorded for a case
- 17.2. A case_outcome shall include (Settled, not_settled, Arbitration)
- 17.3. A case_outcome shall record the mediator who finalized the case

18. Arbitration

- 18.1. A referral to arbitration can be suggested by a mediator at any point during mediation
- 18.2. A referral to arbitration can take place if the parties do not settle
- 18.3. A referral to arbitration shall take place upon agreement by both parties
- 18.4. A referral to arbitration shall render the case closed

19. Document

- 19.1. A document can be uploaded by a User and linked to a case
- 19.2. A document uploaded shall reference the time of upload
- 19.3. A document shall be deleted and unliked by the sender

20. Message

- 20.1. A message can be sent by a User
- 20.2. A message shall be viewed only by entities linked to the case
- 20.3. A message shall reference the time sent

21. Notification

- 21.1. A notification shall be delivered to a User upon a message received
or a change in case status
- 21.2. A notification shall reference the triggering entity
- 21.3. A notification shall reference the time sent

22. Audit_Log

- 22.1. An audit log shall be created for each case
- 22.2. An audit log shall record sensitive actions (create, edit, finalize)
- 22.3. An audit log shall record and reference Users
- 22.4. An audit log shall not be deleted or changed by any User

Non-Functional Requirements

1. Performance

- 1.1. The database system shall respond to user requests under 2 seconds in normal conditions
- 1.2. The database system shall support concurrent users
- 1.3. The database system shall support batch document uploads up to 100MB

2. Security

- 2.1. All sensitive data shall be encrypted
- 2.2. All passwords shall be hashed before storage
- 2.3. Only authorized roles shall access case-level data
- 2.4. The system shall lock out accounts after 5 failed login attempts for 15 minutes

3. Scalability

- 3.1. The database system shall operate on a single server instance for up to 5,000 users
- 3.2. Notification delivery shall scale to 100,000 events per day
- 3.3. The system shall allow additional storage capacity to be added

4. Capability

- 4.1. The system shall support cross-country treaty lookups
- 4.2. The database shall support multilingual fields

4.3. The database shall support different time zones for sessions

4.4. The database system shall allow API integrations

5. Environmental

5.1. The system shall support modern web browsers

5.2. The system shall be accessible from desktops, laptops, tablets, and smartphones

5.3. The system shall support major operating systems

6. Coding Standard

6.1. All code shall include documentation for maintainability

6.2. All database schemas shall follow consistent naming

6.3. The system shall log errors with timestamps for troubleshooting

7. Storage

7.1. Each case record shall be able to reserve at least 1 MB of storage

7.2. Storage backups shall be performed nightly

7.3. The database shall compress images to reduce the storage footprint

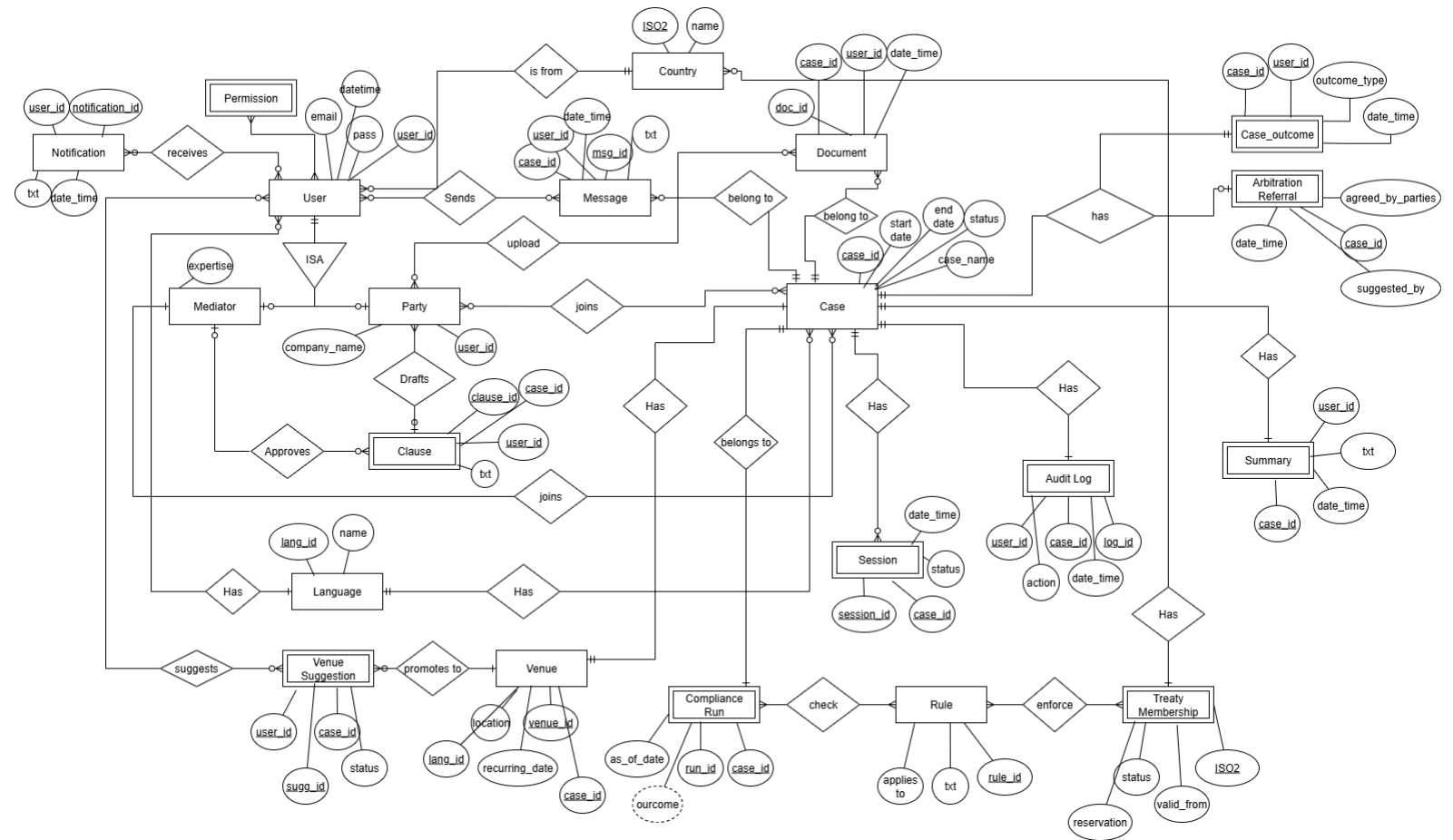
8. Privacy

8.1. The system shall notify users of any data breaches within 48 hours

8.2. The system shall anonymize sensitive user data

8.3. The system shall restrict access to sensitive data to authorized roles only

Conceptual Design



Entity Set Description

1. User (Strong)

- **user_id:** numeric, primary key
- **email:** alphanumeric, unique
- **datetime:** datetime

2. Party (Strong)

- **company_name:** text

3. Mediator (Strong)

- **expertise:** text

4. Case (Strong)

- **case_id:** numeric, primary key
- **case_name:** alphanumeric, unique
- **start_date:** date
- **end_date:** date (nullable)
- **status:** enum

5. Clause (Weak)

- **clause_id:** numeric, primary key
- **case_id:** numeric, foreign key (references Case)

- **user_id:** numeric, foreign key (references User)
- **text:** text

6. Venue (Strong)

- **venue_id:** numeric, primary key
- **case_id:** numeric, foreign key
- **lang_id:** numeric, foreign key
- **location:** alphanumeric
- **recurring_date:** date time

7. Venue_Suggestion (Weak)

- **sugg_id:** numeric, primary key
- **case_id:** numeric, foreign key (references Case)
- **user_id:** numeric, foreign key (references User)
- **status:** enum (pending, accepted, rejected)

8. Session (Weak)

- **session_id:** numeric, primary key
- **case_id:** numeric, foreign key (references Case)
- **user_id:** numeric, foreign key (references Mediator)
- **datetime:** datetime
- **status:** enum (scheduled, completed, cancelled)

9. Language (Strong)

- **language_code:** alphanumeric, primary key

- **name:** alphanumeric

10. Country (Strong)

- **ISO2:** alphanumeric, primary key
- **name:** alphanumeric

12. Treaty_Membership (Weak)

- **ISO2:** alphanumeric, primary key, foreign key (references Country)
- **status:** enum (party, signatory, non_party)
- **valid_from:** date
- **reservations:** text

13. Compliance Run (Weak)

- **run_id:** numeric, primary key
- **case_id:** numeric, foreign key (references Case)
- **as_of_date:** date
- **outcome:** enum

14. Rules (Strong)

- **rule_id:** numeric, primary key
- **txt:** text
- **applies_to:** enum (both_parties, claimant_only, respondent_only)

15. Summary (Weak)

- **case_id:** numeric, primary key, foreign key (references Case)

- **user_id:** numeric, foreign key (references Case)
- **text:** text
- **datetime:** datetime

16. Case_Outcome (Weak)

- **case_id:** numeric, primary key, foreign key (references Case)
- **outcome_type:** enum (Settled, Not_Settled, Arbitration)
- **user_id:** numeric, foreign key (references Mediator)
- **datetime:** datetime

17. Arbitration (Weak)

- **case_id:** numeric, primary key, foreign key (references Case)
- **suggested_by:** numeric, foreign key (references Mediator)
- **agreed_by_parties:** BOOLEAN
- **datetime:** datetime

18. Document (Strong)

- **document_id:** numeric, primary key
- **case_id:** numeric, foreign key (references Case)
- **user_id** numeric, foreign key (references User)
- **date_time:** datetime

19. Message (Strong)

- **msg_id:** numeric, primary key
- **case_id:** numeric, foreign key (references Case)

- **user_id:** numeric, foreign key (references User)
- **datetime:** datetime
- **txt:** text

20. Notification (Strong)

- **notification_id:** numeric, primary key
- **user_id:** numeric, foreign key (references User)
- **txt:** txt
- **datetime:** datetime

21. Audit_Log (Weak)

- **log_id:** numeric, primary key
- **case_id:** numeric, foreign key (references Case)
- **user_id:** numeric, foreign key (references User)
- **action:** enum (create, edit, finalize)
- **datetime:** datetime