erDiagram

USERS {

VARCHAR user\_id PK

VARCHAR full\_name

}

CASES {

VARCHAR case\_id PK

}

EVIDENCE {

VARCHAR evidence\_id PK

VARCHAR case\_id FK

VARCHAR name

TEXT description

TEXT type

VARCHAR file\_path

BIGINT file\_size

VARCHAR file\_hash\_md5

VARCHAR file\_hash\_sha1

VARCHAR file\_hash\_sha256

VARCHAR file\_hash\_sha512

VARCHAR acquisition\_method

TIMESTAMP acquisition\_timestamp

VARCHAR acquired\_by FK

TEXT status

INTEGER integrity\_verified

TIMESTAMP last\_verified

JSON metadata

TIMESTAMP created\_at

TIMESTAMP updated\_at

}

CHAIN\_OF\_CUSTODY {

VARCHAR custody\_id PK

VARCHAR evidence\_id FK

VARCHAR investigator\_id FK

VARCHAR location

TIMESTAMP timestamp

TEXT action

TEXT notes

VARCHAR digital\_signature

VARCHAR integrity\_hash

VARCHAR previous\_custody\_id FK

VARCHAR next\_custody\_id FK

TEXT status

TIMESTAMP closed\_timestamp

}

EVIDENCE\_TAGS {

INTEGER tag\_id PK

VARCHAR evidence\_id FK

VARCHAR tag\_name

TEXT tag\_value

VARCHAR created\_by FK

TIMESTAMP created\_at

}

EVIDENCE\_RELATIONSHIPS {

INTEGER relationship\_id PK

VARCHAR source\_evidence\_id FK

VARCHAR target\_evidence\_id FK

ENUM relationship\_type

DECIMAL confidence\_score

TEXT notes

VARCHAR created\_by FK

TIMESTAMP created\_at

}

USERS ||--o{ EVIDENCE : acquired\_by

CASES ||--o{ EVIDENCE : case\_id

EVIDENCE ||--o{ CHAIN\_OF\_CUSTODY : evidence\_id

USERS ||--o{ CHAIN\_OF\_CUSTODY : investigator\_id

EVIDENCE ||--o{ EVIDENCE\_TAGS : evidence\_id

USERS ||--o{ EVIDENCE\_TAGS : created\_by

EVIDENCE ||--o{ EVIDENCE\_RELATIONSHIPS : source\_evidence\_id

EVIDENCE ||--o{ EVIDENCE\_RELATIONSHIPS : target\_evidence\_id

USERS ||--o{ EVIDENCE\_RELATIONSHIPS : created\_by

CHAIN\_OF\_CUSTODY ||--o| CHAIN\_OF\_CUSTODY : previous\_custody\_id

CHAIN\_OF\_CUSTODY ||--o| CHAIN\_OF\_CUSTODY : next\_custody\_id