**SYSTEM OVERVIEW (FREELANCING PLATFORM)**

This system allows:

* **Clients** to post projects.
* **Freelancers** to bid on projects.
* **Contracts** to be formed from accepted bids.
* **Payments**, **portfolios**, **reviews**, **messages**, and **notifications** to support collaboration.

**WORKFLOW**

1. **User Registration:**  
   All users register with basic credentials. They are then categorized as either Client or Freelancer.
2. **Project Posting:**  
   Clients create Projects within a specific Category.
3. **Freelancer Bidding:**  
   Freelancers place Bids on projects with proposed amount and delivery time.
4. **Contract Formation:**  
   When a bid is accepted, a Contract is created between the client and freelancer.
5. **Payments:**  
   Payments are linked to contracts and contain details like amount, method, and reference.
6. **Portfolio and Skills:**  
   Freelancers can showcase their work in Portfolios and associate their abilities through Skills.
7. **Messaging and Notifications:**  
   Users can send Messages and receive Notifications based on actions or updates.
8. **Reviews:**  
   Clients can leave Reviews for freelancers after project completion.

**Relational Schema**

1. **Users** :(User\_ID **PK**, Username, Email, Password\_hash)
2. **Clients**:(Client\_ID **PK**, User\_ID **FK**, Company\_name)
3. **Freelancers:** (Freelancer\_ID **PK**, User\_ID **FK**, Hourly\_rate, Bio, Profile\_picture)
4. **Categories** (Category\_ID **PK**, Category\_Name)
5. **Projects** (Project\_ID **PK**, Client\_ID **FK**, Category\_ID **FK**, Title, Description, Budget, Deadline, Status)
6. **Bids** (Bid\_ID **PK**, Project\_ID **FK**, Freelancer\_ID **FK**, BidAmount, DeliveryTime, BidDate, Status)
7. **Contracts** (Contract\_ID **PK**, Bid\_ID **FK**, StartDate, EndDate, ContractTerms, Status, PaymentSchedule)
8. **Payments** (Payment\_ID **PK**, Contract\_ID **FK**, Amount, PaymentDate, PaymentMethod, Status, TransactionReference)
9. **Portfolio** (Portfolio\_ID **PK**, Freelancer\_ID **FK**, ProjectTitle, ProjectDescription, SkillsUsed, CompletionDate, ClientFeedback, ProjectURL)
10. **Skills** (Skill\_ID **PK,** Skill\_name, Description)
11. **Freelancer\_Skills** (Freelancer\_ID **FK**, Skill\_ID **FK**, **PRIMARY KEY** (Freelancer\_ID, Skill\_ID))
12. **Messages** (Message\_ID **PK**, User\_ID **FK**, Content, SentDate, Is\_Read)
13. **Notifications** (Notification\_ID **PK**, User\_ID **FK**, Message, Is\_Read, NotificationDate, NotificationType)
14. **Reviews** (Review\_ID **PK**, Client\_ID **FK**, Freelancer\_ID **FK**, Contract\_ID **FK**, Rating, Comments)

**LINK TO ERD DIAGRAM ON DRAW.IO**

**https://viewer.diagrams.net/?tags=%7B%7D&lightbox=1&highlight=0000ff&edit=\_blank&layers=1&nav=1&title=Erd%20project.drawio&dark=auto#R%3Cmxfile%20pages%3D%222%22%3E%3Cdiagram%20name%3D%22Page-1%22%20id%3D%22R3GzApwEP4u6Ge2O3\_sk%22%3E7V1bc5u6Fv41nmkfnOFu%2BzHXsztt9skk6ZzdvnSIkW1OMfIB3MT99UcyEhaSMBcLG6e0DzGSECC%2BtbTuDMzr5du%2FIne1uIceCAaG5r0NzJuBYdiGOUZ%2FcMsmbdGtkZO2zCPfI227hif%2FNyCNGmld%2Bx6IcwMTCIPEX%2BUbpzAMwTTJtblRBF%2FJMDLdDAb5q67cORAanqZuILb%2Bx%2FeSRdo6trVd%2B1%2FAny%2FolXWN9Ly405%2FzCK5Dcr2BYc62%2F9LupUvnIuPjhevBV%2Bai5u3AvI4gTNJfy7drEODFpcuWnndX0JvddwTCpMoJ1jB8MSZvD9dfLm%2Fh9%2FH3T%2B7Pq6FBXtYvN1gD%2BhxOgCa8eonQrzn%2B9TUGUUweItnQhYtf%2FWXghujoarrwA%2B%2BLu4FrfCdxglaGHl0tYOT%2FhmHiBqhLRw2oO0oIDtAqsyOe8JmoGbduVxZ45KQZ6ifn6BY9JveibSeN4M%2FsBRr4fBCj8Q90ebSs6YsbJ%2FRW6CvBvZ4bL7bXwwdu4M9D9HuKzgYRboim5Pr48q8LPwFPK3eKG14RZeDHSJb0EQP3BQRXGT6uYQDRHDch3K7WzA8C2oRAc3d5a1%2BPsmdgerS78dX4hjwt065bpmPhZxQhQFDxC0QJeOOxhogYwCVIog0aQnpNh8BzQ4%2BtC0rTrzt60Ck9LFhaoNB2CQ3Os%2Bl3OEQ%2FCBTrwHIkwBKD8Menmw8Pnz9ShHr%2BLxaiobsEtAtdlemVnHC7dP2g8ugHN45fYeT9WCCQiAQiOaN4kPxifCtHbBSPAZglAlQkuCJNMYKoH86%2FbM%2FaIpe0PJK3mNESoS2MKgweHzHIS3LNBK4o8bgvGcVFMHET5hihkJIVQwkyQimhjspY38%2FQyimAIJ4iuwzto9bAPhbAfhcBgHjrtOe775XvWhzfdTQJDB0Z0zVbw%2BFkDw73s17ce7frLeWnf8F1FODViNykOs%2B%2B8mF1jh1B9L7Bj5U%2FTdZR4TV6NtuQzY4rA34Pm5Xhe9wWvCndMPC%2BDnz0mD2LfZ8s1rCastjW5FpTL8CgWvZ6DZcrN9wMWYm4l1Y7yEYznqScjbYmrZqilCC8fxB6l9g0s1snZpF33A%2B%2FCLQ%2B0eYffHBh2PT4G9t585Y72rBHDyDy0WNhNpY2vvlJOpmTzoaOvzF9u7nwwYY54Gfa%2F9oFfnY5NjT9kgOEB2buOkikcCCMIEaC0BRUQAjaWeagyo4MvJy9SwRShCS6xP%2BVN3%2FJYEJOfYA%2BuumdwcAo4Kp0ivSRyFmsPYqbyNbzE9n8zp8%2BsjARQpa7YYat8IC4%2BIYt7oZtJ2cnQz%2FSGXckkS1WcyqxjLaoxNJ1lkz0JmRyAnA%2FfFreus63oT27%2FzzSg%2Fvbz4vVUKcG31JwjyqCm2GLMh2eth1IAwKkeJ2sKg1YZgkx1aaBHG%2BvB2T5K9qnEz79RJt4Lz7XEJ%2FrC8JFIvV%2BGlYgPjt2HpuWTHyWmoV5EDeRPaRgFJlqzkAxMK63iCwWptnhXi2ROpt4z0nvWAouQmddFO7lMcpNtnZbQBQttj0rfM%2BskNum9bEEgKOjskJRCythfWl3LR%2FZDYinkb9KfBj2LE8ty1NiPpUhrjWWp4uSoPD6k8h3wzk%2BOh7xb18wRqh5M5yUKzcKuIGlORfjcV42Gku95qaMJRg6tnS09JJMyUsipj2e0PFC516f8781pB3DeEtpl2iA7qze0tNIP53Ij%2FEjMJwhnVGwFL4Usgu04EkeF8KWwlP50ve8QoDllWZVBFw%2FpmJi5tVDSyRex7zQDREdKizPctHZLidfnsMy74WxVdw%2BooV6hvduuKGCyq5r6Ybev7frmH8XdW0KrPwzTq%2BfO9qZQyxzwJhDhtqFtmtRZxMpRAVrutgn3NaxXGRSg1SUONB2MdKdHDgFh1tV28WI82ALJueT2y6kwW3vAPPmaMRiXr%2FQjC4h3ugY4h3eYt3UWjcqm0iRxXqkjaTXUWWxvvQ%2BG%2F8s4u8R%2FD0a%2FQ7du1F0LTH0PYJfPnjtddr36R23OfY9kem0Uu%2B4ChVDCkHRvJdCsFip3TnP69jyCqOaKjjWESN1p7y7vvS8R8S%2Fwnkd%2F%2F0yDUz547RuVe72vTxOubddiZ1HesuWRISpqb%2BNC%2FS318jPBd%2Fl1Tee6S%2FcFf4ZLeDyZR3jd8qIE6SVkTDKOKXAZ9VZBBQwR5MLHRqbEiAYEiA4beFAtDgrEWWbSKzsO9gvs9Z%2BQ52RGTNnF7X4ag5ns6kc5uCUzaQqzoG75fFE23tjhY%2FYqphZIXqoKo4P07sOR3GmkdULyMhClKoHKBXSCxthsW%2F7KA2wMDtHgJyuNbEaKm02N9GYn6iA%2FJTpVWLY8R%2BG%2BO5ze4dnnU3Bxk80qmghUAY2mZOmprhoF4iLEZgCtMRxLzFK1enOSYy6THU4W5GxeZywdL%2FVW9pvZRGN%2B1TRzrDA97PfyhxdijyeKxgnPf%2BT8r8sJKY7%2FE%2F0%2FjxE8L9g2id8nSZMSwXKBGW6ck6XioQYOc7EWgUEZ6rt1tduAuYw2tQ979lPAqVRX2Jm7trD2131S7he4IfV7wkRU7L%2BE83hhxq8lVRDaC1HUn7PCk2dnVGYM7m0eyYiKjCdn41In3AyK%2B%2BZrCqzGtxEY36itmVWhVbRTqlqXdbUJLDfy0N72KuGPd1C2Gz4VMTxQS%2Bjn6uMPtS5xLFR1ciSSVsihSGaRVlZukBGd9GqztGIv%2FfkTPSiZylxKxc9eYOSOpgY72obbrCdZls3jqPWc1Gm2oXuZNt5nTDT5lu0YVbdohukh7e6RQ95axhvfai6RQ9HvMHj4CjrqhdyxhxBtRANYBTnqxzsr3oBAQznOEclYcuG9TZbZqfm8honjoQFH9VoqzJNpTvKf14PauwvL%2BWDnXOs81xlwgOnMh8sY6htqyqiM%2BFvmPgzJIBhQ2mvrZyvtsLxQLMDcfCiR4EFm9pacfcgjnGJ9Krj%2FfhHBFyv8njahDSaULqf4yTQIUEU3tAzUGGOh%2FswgoZL6JENP4QEUgO2BvtwmuIDj0giN4wpKvAwpi%2FAL3DoudHPD9H85QPe3NBL0mwr%2Fes4H9MfuFMfmekB%2Bk9%2B6ObHj1JpIy%2B2pG3sS7tx98RaZ83pIlWpwHekFa77mM%2BblaLH7DXr0r3ojNIYJDWu%2B8C047jMuf3N0k8u47%2BnGHBiZKFmlW8D1uCi2mdRucbjseR73oNgN5Xv%2Bc9QWEeOGpMUh26MyQ6Z%2Fv5MVOpcFLbVGJUnBqXotiDSeq9vnqu%2BaXLOMdluLBXNWvN6mDKvR4lGgYO3hvT2tsIZdqfblVUGAmNOk81%2FcYpTZHedOAkbhInY8YRaWT1r1%2FMp%2FvGYKq3uEqMjfIlXed2jkqbS6ySlrEq5TtKaU9hs0fcQo32610fkDHBk5xigcfJAcVNhokxX9JFGTt%2Ba8VrNJUZT4tjd%2BzWvzoiWvMJjNa78zcuoB9cSUi59tlQxrkuE0VZMLQV4Z3Crj1Th1syzb8ELcnrciq66K9%2FrNaZz1Zgk5VZ1o7KTTsXnxOQwE510pWoTKz7q%2BoW2EnUpVpHKlJg7KjtuJ5i5Sz%2FYbCVQos6Q6a%2Fd5Uvku3zz1nWVb0LqlT8TxplXyxgO3Xjq%2B8NkAZZguJVbzculH8JoiBlQSAbN0BtFOBwKNyTeM3%2BZ%2Bye0Nvd%2BOF3Agjugk0vugXSRgQs3jPfeqvSG8JkvvudzN3%2BJli5guyXz4na6TPjSiH%2FM19sPTMuf%2Ffbv4dcn7qmYc9ju7SWZvsvH4dOlqFkgVlaoNTNpZ3kPsMzfVseB2OO2x%2B2BuM3X3JPadRC0L5do18TShth7AwIk%2FkSbZ1%2F2TTt0bmr5kZyZJQ8W2X56d%2FRBpp%2F23NEqPnUrv%2BeWyqkprQysUukxFKdU7f2AcGe0HsHYLmStVq5qwRdLE8pmt%2B0LailFsLOIHTUxYA1Y8xVTKEa5BYtmHJSG5JpdS00wuEha3Wxa6UUoIGjyJlpFuQniLSv%2BhKO8dJ4kOxGWisrdiUgM0eq701y9mr3erN4ech72kLHOb2qyrA2pPNWaC8UqrjvXmg9ZFOg1SRNTsRsdyfVmiWpQcqwRNTzVY8pOPvxyT5jGiGtb%2Fey3odfa3HT9n0G0LNTBDl0bpjbMQVM9uBtcd%2F1pihjHOqi2IPsCCKQD%2B5CCanpltv%2Bq1yv11vigUcgHK8cUWAUxBTO4pSAkOqQU1ccXyL%2FVaPCa2skDDCxZpElD3e3kClpWAvhCQzppPkHcblbZqIJ2py6pnJLo%2BWluzkTQ3MbNNDebV6gEu4gizc0Rlc0jZJVb7ymgp8C20di0UYp7Kst3BvcjHveGYzbDPf9Jc93SOApS9QUvq%2BCW28W9gtK3xdJHEMBXVv7oxQ%2Bpds6LH9IKpccVPxR%2BBvE3iOAzTBki6rjzAzrs1OJIjj1WFUMYIaS9%2FBiraqU5o2OMV2CXQhHdyl9OFLIejly%2FwZJF67w3GtAuxI%2Fhbp%2Bkds2m45ZirEwgdFftK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