Security Measures

1. Authentication
    a. In our system, a user must log in before being allowed to access any page.
    b. The router checks to see if there is a user logged in the storage for the browser, and if not, redirects to the main login page where they can log in using their email and password or the Facebook 3rd Party Login.

2. Authorization
    a. A Freelancer or Employer has no access to admin functions. Anything accessible at /adminHome requires that the logged in user have an Admin status, otherwise they are redirected to the normal /home page.
    b. A Freelancer or Employer cannot edit another user's profile. If a user of that level attempts to access another profile by /edit/userEmail, they are redirected to the Freelance or User Listing page.
    c. An Admin cannot edit another admin's profile. If an Admin attempts to access another Admin's profile by /edit/AdminEmail, they are redirected to User Listing page.
    d. A Freelancer cannot post an offer. If they attempt to post an offer by /newoffer, they get redirected.
    e. An Employer cannot accept an offer. Where a Freelancer can accept an offer via /offer/offerName, the Employer can only edit the offer when they go to /offer/offerName.

3. Confidentiality
    a. Passwords are encrypted on sign-up when they are stored in the database.
    b. Despite the handout saying that Admin can change a user's password, all documentation suggests that is a gross breach of confidentiality. Therefore an Admin may access and change the contents of a user's profile via /edit/userEmail, but they may not change their password.
    c. The contents of any sent message are only accessible by the recipient.
    d. The contents of an inbox is only accessible by the logged in user.
    e. The contents of an offer is only accessible by the Employer who made it or an Admin.

4. Data/Message Integrity
    a. Messages are stored using a Universally Unique Identifier. Therefore, as soon as a user sends a message to another user (posts it to the database), the id by which to access it is generated using uuid, which makes the probability of figuring it out and tampering with the message contents next to none.
    b. When an Employer posts an offer and once a Freelancer accepts the job, the ability to delete the offer is removed. This means that there is a permanent record of an Freelancer accepting a job (the Employer then having the ability to Accept or Reject the Freelancer, but not delete the Offer).

5. Accountability
    a. Each user is tracked by IP address when they log in. This means that if there is an attack on the system, and the IP address is traced the attacker can be determined by matching the last logged in IP.
    b. Messages, Offers and Rate/Comments are time stamped. This means that any question about when an interaction between two users occurred is a matter of permanent record in the database.