## **Project Proposal**

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1) We are looking to develop an android communications app between a tenant and a landlord.

The requirements are:

- a) Two separate interfaces for tenant and landlord
- b) A landlord can create his/her account and add the tenants accordingly
- c) Pay utilitis and rent
- d) Push notifications
- e) Sqlite
- f) Backend RESTful API's
- g) Firebase realtime database
- 2) No mathematical verification of Correctness needed since no new algorithm is being introduced or used.
- 3) Paying the utilities/rent is a huge concern since it will be using a 3<sup>rd</sup> party service. In this case we will be simply using a backend server which will simply reply with a payment received or not received.
- 4) Some of the modules discussed above are cohesive as follows:
  - Report maintainance issues
  - Make complaints/safety reminders
  - If a maintaince issue is reported, the amount charged for repairing them would be deducted from the rent.
  - If rent/utilities not paid, a push notification will be generated warning the tenant.
  - In an event of a complaint, the landlord can receive a push notification from the tenant and vice versa.
- 5) One potential change could be no real-life interaction between the tenant and the landlord. For example, the notification of payment of rent could be directly tansmitted to the landlord. If not, the warning could be given to the user or the authorities could be reported.
- 6) Some of the increments can be:
  - Laundry module
  - Offers/deals around the area
  - Internet subscribtion/usage details