# Software Engineering - Lab 1

* **Functional & Non-Functional Requirements**
* **Data Dictionary**
* **Initial Use Case Model**
* **UI Mockups**

**Initial Ideation**

Theme:

Kindergarten

Application Type:

Focus on Android, got time maybe web application

Dataset Used:

Kindergarten Location: <https://data.gov.sg/dataset/kindergartens>

List of Kindergarten: <https://data.gov.sg/dataset/list-of-kindergartens>

List of Kindergarten Service: <https://data.gov.sg/dataset/list-of-kindergarten-services>

Objective:

Allow parents to view all kindergarten in their area, view information regarding the kindergarten and decide which school to enrol their children into. Main idea is to use a “Review” system to allow parents to leave a review of a kindergarten if their child is enrolled in that kindergarten.

**Functional Requirement**

1. Users must undergo a tutorial before using the app.
   1. Tutorial must be clear and precise in teaching the users.
   2. Tutorial must not be skipped.
2. Users must create an account with verifiable information such as email and phone number.
   1. Error message must appear when incorrect information is entered.
   2. After logging in, app must allow user to log out at any point in time.
3. App must request for permission to access the user’s location.
   1. If permission is granted, the app must show nearby kindergarten’s location with a radius of 5km.
      1. The app must display kindergarten in the 5km radius in ascending order based on ratings in the Kindergarten Result Box.
      2. Users must be able to tap on each location and view important information
         1. The app must display address of the kindergarten.
         2. The app must display phone number of the kindergarten.
         3. The app must display email of the kindergarten.
         4. The app must display an average rating of the kindergarten.
         5. The app must display latest reviews of the kindergarten.
      3. Users shall find more information of a kindergarten by tapping on “More Information” button.
         1. App must display opening hours of the kindergarten.
            1. The app must be able to display whether the kindergarten is open according to the current time of the user’s phone.
         2. App must display classes of the kindergarten.
         3. App must display reviews of the kindergarten.
            1. App must display review in inverse chronological order.
         4. App must display ratings of the kindergarten.
            1. App must display the average rating of the kindergarten.
         5. App must display if a kindergarten is spark certified.
         6. App must display pricing of the kindergarten.
            1. App must show pricing for both Singapore Citizens and Permanent Residents.
   2. If permission is not granted, the app must show all kindergartens in Singapore.
      1. Kindergartens must be listed in ascending order according to ratings in the Kindergarten Result Box.
4. Users must be able to leave a review of a kindergarten.
   1. Each user shall only leave a review once per kindergarten.
   2. Users must not be able to submit multiple reviews for a kindergarten.
   3. Users must be able to amend their review.
5. Users must be able to leave ratings of a kindergarten.
   1. User must rate the kindergarten based on these categories, Cleanliness, Manpower, Curriculum and Facility.
   2. Each user shall only leave ratings once per kindergarten.
   3. Users must not be able to submit multiple ratings for a kindergarten.
   4. Users must be able to amend their ratings.
   5. Average rating must be the weighted average based on Cleanliness, Manpower, Curriculum and Facility.
6. Users must be able to search for a location of a kindergarten using postal code, name, part of the name, address or part of the address.
   1. An informative message must be displayed if no results are found.
   2. Results must be displayed in the Kindergarten Result Box in ascending order according to ratings.
7. Users must be able to share information about a kindergarten on any social media platform through the “share via” menu.

**Non-Functional Requirement**

1. The app must be run on android phone running Android 6.0 and above.
2. The app must be developed entirely in Java.
3. Users must not spend more than 10 minutes to create an account.
4. The app must be able to fetch kindergarten information within 500ms when user tap on a pin on the map.
5. The app must be able to fetch kindergarten information within 500ms when user search for a kindergarten using the search bar.
6. After a system reboot, full system functionality must be restored within 10 minutes.
7. If network connection is not available, app must display an informative pop-up box telling the user to try again later.