1. OBJECTIVES

The main objective of this assignment is

• to apply the Object-Oriented (OO) concepts you have learnt in the course,

• to model, design and develop an OO application.

• to gain familiarity with using Java as an object-oriented programming language.

• to work collaboratively as a group to achieve a common goal.

2.Build-To-Order (BTO) Management System

BTO Management System is a system for applicants and HDB staffs to view, apply and manage for BTO projects.

The following are information about the system:

a. Overview of the System:

• The system will act as a centralized hub for all applicants and HDB staffs

• All users will need to login to this hub using their Singpass account.

 o User ID will be their NRIC, that starts with S or T, followed by 7-digit number and ends with another letter

 o Assume all users use the default password, which is password.

 o A user can change password in the system. o Additional Information about the user: Age and Marital Status

• A user list can be initiated through a file uploaded into the system at initialization.

b. Applicant

• Can only view the list of projects that are open to their user group (Single or Married) and if their visibility has been toggled "on".

• Able to apply for a project – cannot apply for multiple projects. o Singles, 35 years old and above, can ONLY apply for 2-Room o Married, 21 years old and above, can apply for any flat types (2-Room or 3-Room)

• Able to view the project he/she applied for, even after visibility is turned off, and the application status

   o Pending: Entry status upon application – No conclusive decision made about the outcome of the application

o Successful: Outcome of the application is successful, hence invited to make a flat booking with the HDB Officer

o Unsuccessful: Outcome of the application is unsuccessful, hence cannot make a flat booking for this application. Applicant may apply for another project.

o Booked: Secured a unit after a successful application and completed a flat booking with the HDB Officer.

• If Application status is "Successful", Applicant can book one flat through the HDB Officer (Only HDB Officer can help to book a flat) - cannot book more than one flat, within a project or across different project

• Allowed to request withdrawal for their BTO application before/after flat booking

• Able to submit enquiries, a string, regarding the projects.

• Able to view, edit, and delete their enquiries.

c. HDB Officer

• HDB Officer possess all applicant's capabilities.

• Able to register to join a project if the following criteria are meant:

o No intention to apply for the project as an Applicant (Cannot apply for the project as an Applicant before and after becoming an HDB Officer of the project)

o Not a HDB Officer (registration not approved) for another project within an application period (from application opening date, inclusive, to application closing date, inclusive)

• Able to see the status of their registration to be a HDB Officer for a project

• Registration to be a HDB Officer of the project is subject to approval from the HDB Manager in charge of the project. Once approved, their profile will reflect the project he/she is a HDB Officer for.

• Able to apply for other projects in which he/she is not handling – Once applied for a BTO project, he/she cannot register to handle the same project

• Able to view the details of the project he/she is handling regardless of the visibility setting.

• Not allowed to edit the project details.

• Able to view and reply to enquiries regarding the project he/she is handling

o With Applicant's successful BTO application, HDB Officer's flat selection responsibilities:

☐ Update the number of flat for each flat type that are remaining

☐ Retrieve applicant's BTO application with applicant's NRIC

☐ Update applicant's project status, from "successful" to "booked".

☐ Update applicant's profile with the type of flat (2-Room or 3-Room) chosen under a project

• Able to generate receipt of the applicants with their respective flat booking details – Applicant's Name, NRIC, age, marital status, flat type booked and its project details.

d. HDB Manager

• Able to create, edit, and delete BTO project listings.

• A BTO project information entered by the HDB Manager will include information like:

 o Project Name o Neighborhood (e.g. Yishun, Boon Lay, etc.)

 o Types of Flat – Assume there are only 2-Room and 3-Room

 o The number of units for the respective types of flat

 o Application opening date o Application closing date o HDB Manager in charge (automatically tied to the HDB Manager who created the listing)

 o Available HDB Officer Slots (max 10)

• Can only be handling one project within an application period (from application opening date, inclusive, to application closing date, inclusive)

• Able to toggle the visibility of the project to "on" or "off". This will be reflected in the project list that will be visible to applicants.

• Able to view all created projects, including projects created by other HDB Manager, regardless of visibility setting.

• Able to filter and view the list of projects that they have created only.

• Able to view pending and approved HDB Officer registration.

• Able to approve or reject HDB Officer's registration as the HDB Manager in-charge of the project – update project's remaining HDB Officer slots

• Able to approve or reject Applicant's BTO application – approval is limited to the supply of the flats (number of units for the respective flat types)

• Able to approve or reject Applicant's request to withdraw the application.

• Able to generate a report of the list of applicants with their respective flat booking – flat type, project name, age, marital status

 o There should be filters to generate a list based on various categories (e.g. report of married applicants' choice of flat type)

• Cannot apply for any BTO project as an Applicant. • Able to view enquiries of ALL projects.

• Able to view and reply to enquiries regarding the project he/she is handling.