

## CCINFOM

### Project Specifications Document

Collaborative Economy - Village Bayanihan

#### Project Mechanics

1. The specifications in this document are minimum specifications. Each group is expected to communicate with the client represented by your respective teacher for clarification and verification of specifications. During such verification, you may discover additional specifications that are not mentioned in this document.
2. Clarified or additional specifications must be documented by the group and submitted together with the final web application
3. Your group is in charge of designing the application so that the features are experienced by the users with ease

#### Project-Based Learning Stages and schedule

- |  |                                      |
|--|--------------------------------------|
| 1. Develop a conceptual database design using the specifications (using data specifications) | [08] November 4/5, 2019              |
| 2. Develop a list of application features  | [08] November 4/5, 2019 (Assignment) |
| 3. Collaborative presentation of application features  | [08] November 6/7, 2019              |
| 4. Develop a conceptual database design using the application features                       | [08] November 6/7, 2019 (Assignment) |
| 5. Develop a logical database design using the conceptual design                             | [09] November 11/12, 2019            |
| 6. Develop a logical database design using EERD  | [09] November 13/14, 2019            |
| 7. Develop a list of functional dependencies   | [10] November 18/19, 2019            |
| 8. Develop a logical database design normalized to 1NF, 2NF                                  | [10] November 20/21, 2019            |
| 9. Develop a logical database design normalized to 3NF                                       | [11] November 25/26, 2019            |
| 10. Buffer Session   | [11] November 27/28, 2019            |
| 11. SEA Games  | [12] December 2/3, 2019              |
| 12. SEA Games  | [12] December 4/5, 2019              |
| FINAL EXAMINATION  | [13] December 13, 2019               |
| PROJECT SUBMISSION (Online)  | [13] December 07, 2019               |

#### Advance Topics (Week 13)

1. SQL Level 4 (Set Operations and Advance Sub-Queries)
2. NOSQL vs. Relational Databases

#### Reading Assignments

1. Develop a logical database design normalized to BCNF

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## USER REGISTRATION (ALL PROJECTS)

### Village Officers & Staff

1. Village officers and staff are registered by the system administrator.
2. When the system administrator registers a village officer or staff, the following details are recorded: username, password, email address, last name, first name, birthday, sex, complete address, a scanned copy of their proof of billing, position, and their start date in office.
3. Usernames are permanent and cannot be changed.
4. Email address are unique, once registered, it cannot be used by other users.
5. Users can update their information except for their username and complete name. Updating of username and complete name can only be done by the system administrator.
6. Once the officer's/staff's administration/job ends, the end date is recorded and their account is changed to a resident user account. Similarly, if a resident with an existing user account is elected/hired as a village officer/staff, their account is changed to a village officer/staff user account and additional details are recorded accordingly by the system administrator.
7. At the start of the web application, the first officer or staff registered is initially assigned as the system administrator.
8. Only village officers and/or staff can be assigned as system administrators.
9. There can be up to four (4) village officers and/or staff who can be assigned as system administrators. At least one (1) system administrator should be a village officer.
10. Village officers and staff users will be able to access functions available to resident users.
11. Users can register further as an individual resource and/or service provider. Village officers and staff who own businesses which can provide for the needs of the village should register them separately as a supplier user. Registered providers will require additional information and requirements for approval, depending on the resource and/or service to be provided.

### Supplier Users

1. Business owners can register themselves as supplier users through the web application, for the approval of the system administrator. Mobile/cart owners/vendors may alternatively register with the help of the system administrator.
2. Before supplier users can be registered, the company should first be registered. The following information about the company is recorded: company name, company address (they should indicate whether the company is in the village/subdivision), business type, daily operating schedule, email address, phone numbers, and a scanned copy of their Certificate of Registration (BIR Form 2303). For businesses located outside the village/subdivision, information on distance from the village gate/s should be provided. When all the requirements for the registration is complete, the web application automatically tags the status of the business registration – "For Approval". Once approved, the business is assigned a businessID and may start adding their supplier users.
3. The business representative may opt to re-submit scanned documents to replace their previously submitted documents. The system administrator assigned to read the email will simply update the records. Previously submitted documents are deleted from the application.
4. Only system administrators can approve registration. System administrators usually check the list of business registrations for approval, go through each record, verify completeness of requirements, and approve the registration. When the system administrator disapproves the registration, he/she needs to write the reason for disapproving registration. Disapproval and reasons for disapproval of registration is sent to the business representative through email.
5. Supplier users can either be a staff or manager of the company. A staff handles transactions with residents and the manager monitors what is happening with the company and makes decisions on issues raised to him/her.
6. Each company may register up to three (3) supplier users: one (1) manager and a maximum of two (2) staff.
7. When supplier users register for an account, the following details are recorded: complete name, complete address, birthday, date hired, days in the week of work, username and password, email address, and mobile phone numbers. Usernames are permanent and cannot be changed.
8. Email address are unique, once registered, it cannot be used by other users.
9. Supplier users can update their information except for their complete name. Updating of complete name can only be done by system administrators.
10. More supplier users can be added under a registered business later on, as long as the maximum number of supplier users has not yet been reached.
11. When a business closes, it is tagged as "Non-operational" and all supplier users associated with the business are deactivated.

### Resident Users

1. Residents of a village can register themselves through the web application.
2. Residents register their desired username, password, email address, last name, first name, birthday, sex, complete address, and a scanned copy of their proof of billing (for the verification of their address).
3. Each household can have up to two (2) registered users in the application.
4. Email address are unique, once registered, it cannot be used by other users.
5. Resident users can update their information except for their username and complete name. Updating of username and complete name can only be done through the system administrator.
6. When all the requirements for the registration is complete, the web application automatically tags the status of the registration – "For Approval".
7. The user may opt to re-submit scanned documents to replace their previously submitted documents. The system administrator assigned to read the email will simply update the records. Previously submitted documents are deleted from the application.
8. Only system administrators can approve registration. System administrators usually check the list of resident registrations for approval, go through each record, verify completeness of requirements, and approve the registration. When the system administrator disapproves the registration, he/she needs to write the reason for disapproving registration. Disapproval and reasons for disapproval of registration is sent to the resident through email.
9. Once the resident's account is approved, they can register further as an individual resource and/or service provider. Residents who own businesses which can provide for the needs of the village should register them separately as a supplier user. Registered providers will require additional information and requirements for approval, depending on the resource and/or service to be provided.

### Resident Groups

1. Residents can form themselves as a group, pertaining to their gated community, block, or street within the village/subdivision. These groups can be used to consolidate requests for resources and/or services.
2. Any resident can create a group. Whoever creates the group assumes the role of the lead resident of the group. The lead resident can invite members to and remove members from the group.
3. When a group is created, the application automatically assigns it a unique groupID. Creation of resident groups does not require approval.

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4. Group details include the block/street address of the group. A group will remain active as long as there are at least three (3) members in it, including the lead resident. Once the number of members fall below 3, it will be deactivated by the system administrator.
5. Invites to the group is accepted by the invited resident. A resident can be part of only one (1) resident group, but can still be part of other pooled requests.
6. Group members can opt to remove themselves from the group.
7. The application is not designed to be used to collaborate with the members of the group. The lead resident needs to do this outside of the application whenever appropriate.

#### Submitted Documents

1. Submitted files are stored in a repository. The folder, the type of file and filename is recorded in the application. The application automatically assigns a fileId to the file.
2. The file is associated with a user that owns the submitted file.
3. The web application also provides a link to the files submitted by a user. Of course, this is only accessible by the user and also by the system administrators.

NOTE: It is assumed that the web application is for the use of one village/subdivision.

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### PROJECT A: Access to Consumables

#### Module A.1: User Registration (Group Leader).

Aside from the specifications listed in this project, the project also implements User Registration as specified above.

#### Module A.2: Supplier Features (Member 1)

##### Listing of Consumable Goods

Upon the approval of the business account and its respective supplier user accounts, users may set up the list of available consumable goods, their respective prices, and pictures (optional). Aside from the usual food concessionaires and restaurants, suppliers may also include, but not limited to, the following household essentials providers: water refilling stations, rice, LPG, bakeries, meat and fresh produce, convenience/sari-sari stores, gardening supplies, and hardware. If applicable, the users may also indicate the availability of their products (quantity in stock). Furthermore, businesses may provide information on the availability of delivery services and corresponding fees.

Mobile/cart owners (e.g. taho, balut, ice cream, fishball, etc.) may additionally provide information on their vendors' routes (sequence of streets that they traverse), park locations (places where they stop to sell for a prolonged period), and the usual days and times they pass those areas.

Suppliers may update their offerings on a daily basis.

##### Order Management

Suppliers can view orders placed on the web application. When an order is placed, the supplier will only be able to see the order details and the customer's (resident's) name, address, and phone number. The web application also allows suppliers to group/view the orders by location. Suppliers may contact the customer directly regarding the availability of the items indicated in the order. If changes have to be made as a result, the supplier may modify the order details placed by the customer upon their approval.

Orders cannot be placed for mobile/cart vendors through the web application. Mobile/cart owners may log their daily total sales, indicate which location/route had the most number of customers, and which items were most sellable as reported by their vendors.

All orders placed on the web application are to be paid in cash (pick-up or delivery). The supplier user records the payment details in the web application: payment date, time, and amount paid. For orders placed using the web application, customers may cancel orders within ten (10) minutes after confirming the order, without incurring any penalty fee. Otherwise, if the 10-minute grace period for cancellation has lapsed, a cancellation fee (for orders below PHP100.00: 75% of the total amount; for orders above PHP 100.00: 25% of the total amount) is to be paid by the resident directly to the supplier within three (3) days. Customers with unpaid fees after three days from when the cancelled order was placed will be marked as "delinquent". A resident may not place an order with the supplier concerned if there are outstanding payables. No cancellation fee will be incurred if the order is cancelled by the supplier. Nevertheless, the date and time the order was cancelled and the reason for cancellation should be recorded.

Supplier users will be able to view all completed, pending, and cancelled orders.

#### Module A.3: Resident Features (Member 2)

Residents can search/view the supplier offerings and place orders through the web application. Suppliers can be grouped/viewed by location in order for the customers to determine which ones are closest to them. Additionally, suppliers can also be viewed/filtered based on their business type/category and customer ratings.

Residents can either place orders on the spot for the same day (selecting the items, quantities, whether it's for pick-up or delivery, time for pick-up/delivery, and other special instructions) or place weekly/monthly scheduled orders in advance (also indicating the number of instances the order will be placed). The total amount for the order is automatically computed. Orders can be temporarily saved but will automatically be deleted by the end of the day if not confirmed. A resident may place many orders to many suppliers at any given day, as long as the previous orders with the same supplier are paid in full.

Orders cannot be placed for mobile/cart vendors through the web application, but information about mobile/cart vendors can be viewed.

All orders placed on the web application are to be paid in cash (pick-up or delivery). The supplier user records the payment details in the web application: payment date, time, and amount paid. For orders placed using the web application, customers may cancel orders within ten (10) minutes after confirming the order, without incurring any penalty fee. Otherwise, if the 10-minute grace period for cancellation has lapsed, a cancellation fee (for orders below PHP100.00: 75% of the total amount; for orders above PHP100.00: 25% of the total amount) is to be paid by the resident directly to the supplier within three (3) days. Customers with unpaid fees after three days from when the cancelled order was placed will be marked as "delinquent". A resident may not place an order with the supplier concerned if there are outstanding payables. No cancellation fee will be incurred if the order is cancelled by the supplier. Nevertheless, the date and time the order was cancelled and the reason for cancellation should be recorded.

When an order is completed, the resident can rate the supplier based on the following criteria: quality of products, value for money, timeliness in order fulfillment, politeness of staff, and overall customer satisfaction.

Residents can view all their completed, cancelled, and pending orders.

#### Module A.4: Report Generation Module (Member 2)

The following reports need to be generated for the supplier user

1. Monthly completed and cancelled orders and total sales given a specific year.
2. Daily completed orders and total sales given a specific month and year.
3. List of customers (residents) with outstanding payables given a specific week.
4. Monthly average customer ratings & feedback per criteria given a specific year. (This report can also be viewed by system administrators.)
5. For mobile/cart owners/vendors: Top 3 locations based on sales for a specific month and year.

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### PROJECT B: Access to Services

#### Module B.1: User Registration (Group Leader).

Aside from the specifications listed in this project, the project also implements User Registration as specified above.

#### Module B.2: Service Provider Features (Member 1)

##### Listing of Services

Service providers are also classified as supplier users. Upon the approval of the business account and its respective supplier user accounts, users may set up the list of available services, their respective prices, duration, and pictures (optional). Service providers may include, but not limited to, the following: laundry, housekeeping, automotive services (e.g. mechanic, vulcanizing, car wash), sewing & alterations, hair cut, spa, medical, and dental. If applicable, the users may also indicate the availability of their services, if booking of time slots is applicable. Moreover, service providers should indicate whether they can do off-site/home servicing and place additional fees, if any.

Resident users may identify themselves as service providers, if they have the expertise, tools, and equipment necessary to render the service. Individual service providers should indicate the services they can provide, which may include, but not limited to the following: plumbing, electrical, babysitting, tutorials, grocery shopping, and gardening. Individual service providers have the option to limit their services to a particular resident group and also can declare if they are willing to render the service for free or for a fee. If applicable, the users may also indicate the availability of their services, if booking of time slots is applicable. Moreover, service providers should indicate whether they can do off-site/home servicing and place additional fees, if any.

Suppliers may update their offerings on a daily basis.

##### Service Request Management

Suppliers can view requests placed on the web application. When service request is made, the supplier will only be able to see the request details and the customer's (resident's) name, address, and phone number. For off-site/home servicing, the web application also allows suppliers to group/view the requests by location. Suppliers may contact the customer directly regarding the availability of the services/time slot indicated in the request. If changes have to be made as a result, the supplier may modify the service request details placed by the customer upon their approval.

All requests placed on the web application are to be paid in cash. The supplier user records the payment details in the web application: payment date, time, and amount paid. For requests placed using the web application, customers may cancel such requests within 30 minutes after confirming, without incurring any penalty fee. Otherwise, if the 30-minute grace period for cancellation has lapsed, a cancellation fee (for service fees below PHP100.00: 75% of the total amount; for service fees above PHP 100.00: 25% of the total amount) is to be paid by the resident directly to the supplier within three (3) days. Customers with unpaid fees after three days from when the cancelled order was placed will be marked as "delinquent". A resident may not place a service request with the supplier concerned if there are outstanding payables. No cancellation fee will be incurred if the request is cancelled by the supplier and if the service is for free. Nevertheless, the date and time the request was cancelled and the reason for cancellation should be recorded.

Supplier users will be able to view all completed, pending, and cancelled orders.

#### Module B.3: Resident Features (Member 2)

Residents can search/view the supplier offerings and place requests through the web application. Suppliers can be grouped/viewed by location in order for the customers to determine which ones are closest to them. Additionally, suppliers can also be viewed/filtered based on their business type/category, availability of off-site/home servicing, and customer ratings.

Residents/resident groups (through the lead resident) can either make service requests on the spot for the same day (selecting the services, quantities, whether it's on-site/off-site, time slot, and other special instructions) or place weekly/monthly scheduled requests in advance (also indicating the number of instances the service request will be placed). The total amount for the service is automatically computed. Requests can be temporarily saved but will automatically be deleted by the end of the day if not confirmed. A resident/resident group may place many service requests to many suppliers at any given day, as long as the previous services with the same supplier are paid in full.

All requests placed on the web application are to be paid in cash. The supplier user records the payment details in the web application: payment date, time, and amount paid. For requests placed using the web application, customers may cancel such requests within 30 minutes after confirming, without incurring any penalty fee. Otherwise, if the 30-minute grace period for cancellation has lapsed, a cancellation fee (for service fees below PHP100.00: 75% of the total amount; for service fees above PHP 100.00: 25% of the total amount) is to be paid by the resident directly to the supplier within three (3) days. Customers with unpaid fees after three days from when the cancelled order was placed will be marked as "delinquent". A resident may not place a service request with the supplier concerned if there are outstanding payables. No cancellation fee will be incurred if the request is cancelled by the supplier and if the service is for free. Nevertheless, the date and time the request was cancelled and the reason for cancellation should be recorded.

When a service is completed, the resident can rate the supplier based on the following criteria: quality of service, value for money, timeliness in service fulfillment, politeness of staff, and overall customer satisfaction.

Residents can view all their completed, cancelled, and pending service requests.

#### Module B.4: Report Generation Module (Member 2)

The following reports need to be generated for the supplier user

1. Monthly completed and cancelled service requests and total sales given a specific year.
2. Daily completed service requests and total sales given a specific month and year.
3. List of customers (residents) with outstanding payables given a specific week.
4. Monthly average customer ratings & feedback per criteria given a specific year. (This report can also be viewed by system administrators.)
5. Wherever applicable: Top 3 services availed based on sales for a specific month and year.

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### PROJECT C: Rental Services

#### Module C.1: User Registration (Group Leader).

Aside from the specifications listed in this project, the project also implements User Registration as specified above.

#### Module C.2: Service Provider Features (Member 1)

##### Listing of Services

Service providers are also classified as supplier users. Upon the approval of the business account and its respective supplier user accounts, users may set up the list of available services, their respective prices, duration, and pictures (optional). Service providers may include, but not limited to, the following: laundry, housekeeping, automotive services (e.g. mechanic, vulcanizing, car wash), sewing & alterations, hair cut, spa, medical, and dental. If applicable, the users may also indicate the availability of their services, if booking of time slots is applicable. Moreover, service providers should indicate whether they can do off-site/home servicing and place additional fees, if any.

Resident users may identify themselves as service providers, if they have the expertise, tools, and equipment necessary to render the service. Individual service providers should indicate the services they can provide, which may include, but not limited to the following: plumbing, electrical, babysitting, tutorials, grocery shopping, and gardening. Individual service providers have the option to limit their services to a particular resident group and also can declare if they are willing to render the service for free or for a fee. If applicable, the users may also indicate the availability of their services, if booking of time slots is applicable. Moreover, service providers should indicate whether they can do off-site/home servicing and place additional fees, if any.

Suppliers may update their offerings on a daily basis.

##### Service Request Management

Suppliers can view requests placed on the web application. When service request is made, the supplier will only be able to see the request details and the customer's (resident's) name, address, and phone number. For off-site/home servicing, the web application also allows suppliers to group/view the requests by location. Suppliers may contact the customer directly regarding the availability of the services/time slot indicated in the request. If changes have to be made as a result, the supplier may modify the service request details placed by the customer upon their approval.

All requests placed on the web application are to be paid in cash. The supplier user records the payment details in the web application: payment date, time, and amount paid. For requests placed using the web application, customers may cancel such requests within 30 minutes after confirming, without incurring any penalty fee. Otherwise, if the 30-minute grace period for cancellation has lapsed, a cancellation fee (for service fees below PHP100.00: 75% of the total amount; for service fees above PHP 100.00: 25% of the total amount) is to be paid by the resident directly to the supplier within three (3) days. Customers with unpaid fees after three days from when the cancelled order was placed will be marked as "delinquent". A resident may not place a service request with the supplier concerned if there are outstanding payables. No cancellation fee will be incurred if the request is cancelled by the supplier and if the service is for free. Nevertheless, the date and time the request was cancelled and the reason for cancellation should be recorded.

Supplier users will be able to view all completed, pending, and cancelled orders.

#### Module C.3: Resident Features (Member 2)

Residents can search/view the supplier offerings and place requests through the web application. Suppliers can be grouped/viewed by location in order for the customers to determine which ones are closest to them. Additionally, suppliers can also be viewed/filtered based on their business type/category, availability of off-site/home servicing, and customer ratings.

Residents/resident groups (through the lead resident) can either make service requests on the spot for the same day (selecting the services, quantities, whether it's on-site/off-site, time slot, and other special instructions) or place weekly/monthly scheduled requests in advance (also indicating the number of instances the service request will be placed). The total amount for the service is automatically computed. Requests can be temporarily saved but will automatically be deleted by the end of the day if not confirmed. A resident/resident group may place many service requests to many suppliers at any given day, as long as the previous services with the same supplier are paid in full.

All requests placed on the web application are to be paid in cash. The supplier user records the payment details in the web application: payment date, time, and amount paid. For requests placed using the web application, customers may cancel such requests within 30 minutes after confirming, without incurring any penalty fee. Otherwise, if the 30-minute grace period for cancellation has lapsed, a cancellation fee (for service fees below PHP100.00: 75% of the total amount; for service fees above PHP 100.00: 25% of the total amount) is to be paid by the resident directly to the supplier within three (3) days. Customers with unpaid fees after three days from when the cancelled order was placed will be marked as "delinquent". A resident may not place a service request with the supplier concerned if there are outstanding payables. No cancellation fee will be incurred if the request is cancelled by the supplier and if the service is for free. Nevertheless, the date and time the request was cancelled and the reason for cancellation should be recorded.

When a service is completed, the resident can rate the supplier based on the following criteria: quality of service, value for money, timeliness in service fulfillment, politeness of staff, and overall customer satisfaction.

Residents can view all their completed, cancelled, and pending service requests.

#### Module C.4: Report Generation Module (Member 2)

The following reports need to be generated for the supplier user

1. Monthly completed and cancelled service requests and total sales given a specific year.
2. Daily completed service requests and total sales given a specific month and year.
3. List of customers (residents) with outstanding payables given a specific week.
4. Monthly average customer ratings & feedback per criteria given a specific year. (This report can also be viewed by system administrators.)
5. Wherever applicable: Top 3 services availed based on sales for a specific month and year.