

**Construction 2**  
**Document 4: Glossary**



**HexaTech**

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**INFO3003A**

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## Version Control

Updates to documentation from elaboration 1 to elaboration 2.

<u>Update</u>	<u>Details</u>
Data Dictionary	<ul style="list-style-type: none"><li>Removed LoanUnit attributes from the data dictionary – in line with the change in the scope of the project.</li></ul>

Updates to documentation from elaboration 2 to construction 1.

<u>Update</u>	<u>Details</u>
Data Dictionary	<ul style="list-style-type: none"><li>Add StaffPassword for staff attributes, this is for log in purposes.</li><li>Added JobDescription to Job for further clarity.</li></ul>

## Business Terms

- Inverter: Refers to the main generator unit of backup power solutions. Provides an AC current from DC power sources to provide electrical output.
- Battery: DC power source that powers inverters.
- kWh (kilowatt hour): The measurement unit used for batteries sold at SolarWay Suppliers, the larger the number, the bigger the capacity of the battery.
- kW (kilowatts): The measurement unit used for the output of inverters sold at SolarWay suppliers. The larger the number, the greater the output. Larger output inverters can power more electrical lines.
- W (watts): The measurement unit used to measure the power output of a solar panel under ideal sunlight and temperature conditions. The larger the number, the greater the power generated by the solar panel.

## Data Terms

- Use case: Describes how a system can be used to achieve goals.
- Use Case Diagram: A graphical representation of a use case.
- Use Case Description: A written description of what the use case does.
- System Boundary: A drawn rectangle to separate the use cases from the actors.
- Activity Diagram: A graphical representation of the systems flows of events/ actions.
- Architecture Model: A conceptual model that describes the system's structure, behaviour, and views.
- Software Architecture: The representation of the design decisions that are related to the overall system behaviour and structure.
- MVC (model-view-controller): A design pattern used to decouple an interface, the data, and the application logic.
- Scalability: The ability of the system to perform properly under an increased workload.
- Hardware Architecture: The way different parts of the system are organised and how they work together.
- Iteration: The process of repeating.
- Invoke: The ability to reference or use another feature.

- Sequence Diagram: Represents the process and the sequences that objects and processes are involved, and the messages exchanged to carry out functionality.
- State Machine Diagram: A graphical representation of the behaviour of the system.
- Prototype: An early product that is used for testing purposes.

## **Hardware Terms**

- RAM (Random-Access Memory): This is hardware component that the computer uses as short-term memory. This short used by the computer's processor to run the applications and to open files.

## **Data Structure**

### **State Machine Diagram Notations**

- Initial State (Black filled dot): The initial state of the system or the process illustrated by a black filled dot.
- Final State (Black filled dot within circle): The final state of the system or the process illustrated by a black filled dot within circle.
- State (Rounded Rectangle): The state illustrates the condition(s) of the system or process at that instant of time.
- Transition (Arrow): The arrows illustrated the transition from one state to another state.

### **Sequence Diagram Notations:**

- Actor (Stick man): The actor represents an entity that interacts with the system or process.
- Activation (Thin rectangle): This thin rectangle on the lifeline illustrates the time in which the element performs an operation.
- Lifeline (Rectangle): This element depicts individual participant in the sequence diagram.
- Message (Arrows): The arrows represent the communication between objects.
- Note: This depicts the attachments of remarks to the element.

### **Entity Relationship Diagram Notations:**

- Attribute (Eclipse): This describes the property of an entity.
- Entity (Rectangle): This represents the object in the process.
- Relationship (Rhombus): This describes the relations between entities.

### **Activity Diagram:**

- Action Box (Rounded Rectangle): This depicts the set of actions.
- Decision Box (Rhombus): This depicts the control flow the object follows.
- Final State (Black dot within circle): This depicts the end of the set of actions.
- Initial State (Black Dot): This depicts the start of the set of actions.

### **Class Diagram:**

- Upper Section: This is the name of the class.
- Middle Section: This describes the attributes/qualities of the class.
- Lower Section: This describes the methods/operations, which describes how the class interacts with the data.
- Relationship: This illustrates the relation between classes.

## Data Dictionary

Field Name	Data Type	Description	Constraint	Validation Rules
CustomerID	String	Auto generated primary key for Customers Table	Unique	None
CustomerFName	String	Customer first name	Not null	String values
CustomerLName	String	Customer last name	Not null	String values
CustomerEmail	String	Customer email address	Not null	Must match email entry requirements, i.e. have an @ and .com or.co.za
CustomerContactNo	Integer	Customer cell-phone number	Not null	10 – 15 digits
CustomerAddress	String	Where the customer stays	Not null	Must be in address format
RepairID	Integer	Auto generated primary key for Repair Table	Unique	None
RepairDescription	String	Details of the repair	Not null	From specific list of options
RepairStatus	String	Status of repair	Not null	One of the valid statuses
CheckInDate	Date/Time	Date and time the repair was checked in	Not null	Date time picker to enforce type
CheckOutDate	Date/Time	Date and time the repair was checked out	Not null	Date time picker to enforce type
RepairPartID	String	Auto generated primary key of RepairPart Table	Unique	None
PartID	String	Auto generated primary key of the Part Table	Unique	None
PartName	String	Name of the repair part	Not null	None
PartQuantity	Integer	The amount of each part	Not null	Number picker to enforce type
JobID	String	Auto generated primary key of the Job Table	Unique	None
JobHoursPlanned	Integer	Integer value of the number of hours planned for each job	Not null	Not exceeding maximum number of hours available
JobHoursWorked	Integer	Integer value of the number of hours done for each job	Not null	Not exceeding maximum number of hours available
JobDescription	String	Details of the Job	Not null	From specific list of options

StaffID	String	Auto generated primary key of the Staff Table	Unique	None
StaffFName	String	Staff first name	Not null	None
StaffLName	String	Staff last name	Not null	None
StaffRole	String	Title of the staff	Not null	None
StaffEmail	String	Email address of each staff	Not null	Must match email entry requirements, i.e. have an @ and .com or.co.za
StaffContactNo	Integer	Cell-phone number of the staff	Not null	10 digits
StaffPassword	String	Password for log in of staff member.	Not null	Password validation rules to be discussed, e.g. Minimum length.
ManufacturerID	String	Auto generated primary key for the Manufacturer Table	Unique	None
ManufacturerName	String	Name of the manufacturer	Not null	None
ManufacturerAddresses	String	Address of where the manufacturer is located	Not null	Must be in address format
ManufacturerEmail	String	Email of the manufacturer	Not null	Must match email entry requirements, i.e. have an @ and .com or.co.za
ManufacturerContactNo	Integer	Cellphone or telephone number of the manufacturer	Not null	10 – 15 digits
UnitID	String	Auto generated primary key of the Unit Table	Unique	None
UnitName	String	Name of the unit	Not null	None
UnitBrand	String	Brand that supplies the unit	Not null	None
UnitType	String	Type of unit	Not null	None
UnitSize	Integer	How many units are available	Not null	None

## Data Structure(s):



