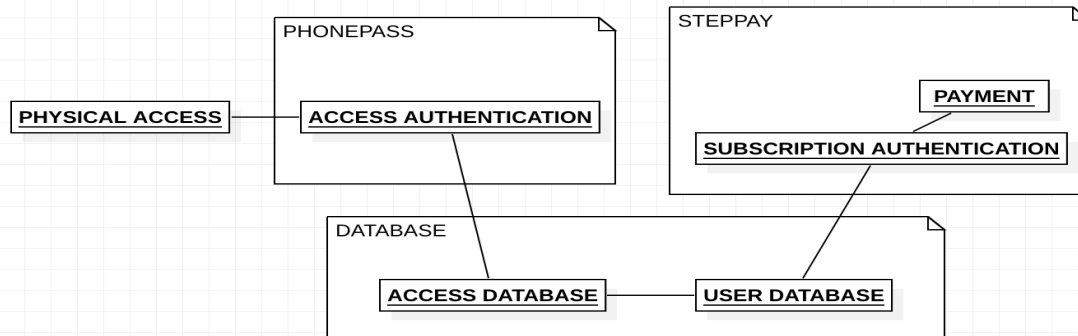


『 APPETIZER HACKATHON 2022 』

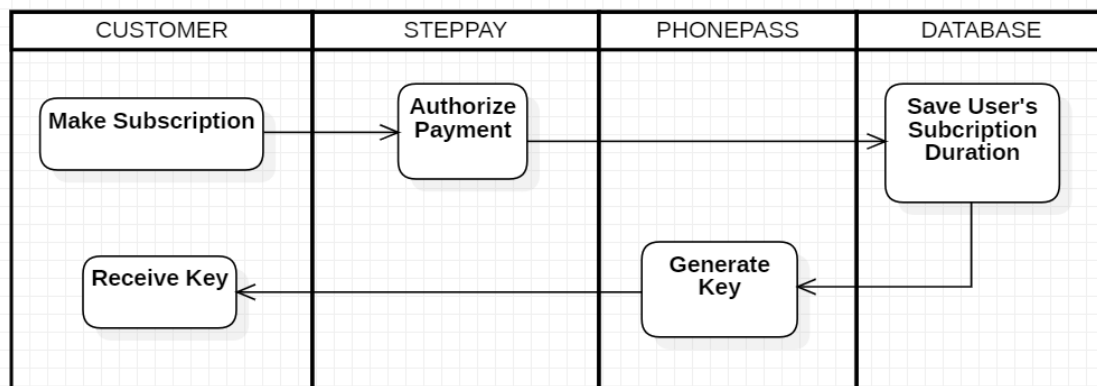
# Development Plan

[Attachment 1] Development Plan [Form] ※ Complete in 5 pages or fewer (evidence, figures, photos, drawings, etc. may be attached)

<b>Team Name</b>		<b>ACE</b>
<b>Name of Development Service</b>	<b>Name</b>	<b>EZ-ACCESS</b>
	<b>Introduction</b>	<b>Utilization of Cloud-based door-lock subscription management for physical reservations.</b>
<b>1. Backgrounds for Development</b>		<p>▶ Briefly specify backgrounds or provide an outline of development and the development concept</p> <p>In the era of new normal, there exists a sudden flow of human traffic as they begin exploring the physical spaces and activities that were previously restricted by the COVID-19 virus. Though, lingering thoughts of limiting physical contact still remain within the minds of the public. As such, the utilization of the PHONEPASS and STEPPAY API allows for simple access of common physical subscription-based spaces with decreased physical contact. The STEPPAY API is utilized as a solution for subscription management, and the PHONEPASS API is utilized as a solution for controlling the access of the stated services. The combinations of the API allow users to subscribe and access physical subscriptions and its products with only the simple use of an app. This development service is applied in fields that tend to get an influx of physical customers, specifically the physical entertainment industry, sports venue industry, housing and parking industry.</p>
<b>2. Key Characteristics of Development Service</b>		<p>▶ Briefly specify an introduction, plan, characteristics, etc. of the development service (photos and other attachments may be attached when needed)</p> <p>The proposed development service will reduce the need for physical contact, and reduce the need for more man-power to maintain the business. Furthermore, catering to the influx in demand that emerges in the new normal era and providing a simple and efficient service provides a competitive edge in the industry.</p> <p>Actualization of the proposed development service is aimed, specifically, towards the globalization of the cloud-based physical subscription system in multiple industries stated on the previous point. To reach such aims, the development process will start with the development of a system that connects STEPPAY and PHONEPASS API in a way that allows subscription-based access towards physical locks. After finalized development and testing, the development phase will then shift to applying the system into a bigger scope that applies multiple differing subscription-based access. Then with the reliability and security ensured through testing, the development phase will then push the collaborations of the system with others, in the form of an application. The overall process is done with the software development life cycle and scrum as the main framework with a scope of the development which covers a lo-fi prototype that effectively utilize both APIs for catering various businesses/industries that requires subscription access, and further implementations will be expected after the collaboration.</p> <p>The system's architecture is expressed in the following diagram,</p>



The payment and subscription authentication process will be done through STEPPAY as part of their management system. The access authentication will be catered by PHONEPASS. Then, both information will be verified through a relational database and finally allow physical access.



### 3. Strategies for Specification and Prototype Development of the Development Service

►Specify concepts, key details, API utilization, and the application method of the development services

PHONEPASS API is used due to a feature which provides an authorization management system. To be more specific, it allows the sharing of temporary access keys which simplifies the process of physical access subscriptions. Through further utilization of this API, period-based expirations for the access keys can also be implemented. On the other hand, STEPPAY API is used due to the feature which manages subscriptions. This will provide a helping hand in processing subscriptions and payments in third party business.

Currently, physical-subscription services require physical access keys like cards, key fobs, biometrics, and pin-based security. An example would be gym membership which requires access cards to enter its facilities. Additionally, applying for subscriptions or using the facilities requires the assistance of a staff member either through direct or online appointments. Both these are pain-points in the new-normal era as people now prefer self service, efficiency and lesser physical contact. In regards to the aforementioned issues, the proposed system offers a simple solution through the combination of both APIs.

<b>4. Detailed Methods for Development Service Specification and Prototype Preparation</b>	►Specification of detailed methods and technological aspects such as API technology and utilization for materialization of the development service
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The proposed system requires two APIs which are the PHONEPASS API and the STEPPAY API which is readily available. This system uses the PHONEPASS API feature to handle access management(sharing multiple temporary access keys with different expirations for multiple users and access points), while a third-party lock, which is commonly found in electronic stores, can be used to provide physical security access. As for the STEPPAY API, the system applies its feature to handle subscription and payment management online through multiple gateways and providing necessary data for the system's database(multiple memberships management system which includes cancellation or extension of subscriptions). These two will work together and form the system and provide scalability for future development in security and payment technology.

<b>5. Expected Effects &amp; Development Schedule and Division of Roles</b>	►Freely specify Economic •Technological•Social impacts or any anticipated effects of the prototype, provide a proposed schedule for development, and clearly state the division of team member roles and responsibilities.
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The prototype and commercialization of the proposed system is expected to not only reduce the need of physical contact, but also reduce the need of human resources to handle the process; thus, impacting the industry on an economic level and allow further allocations to other fields for growth. All which are inline with the new normal era trend and the business's interest. In addition, the system highlights the automation of processes, catering to the influx in demand caused by the new normal era and providing a more simple and efficient solution; thus shifting the industries into a higher level of technological advancement focusing on automation.

Name	Duration	Start	Finish	Pre...	Resource Names
<input checked="" type="checkbox"/> <b>Connecting Both APIs</b>	<b>11 days</b>	<b>10/27/22 8:00 AM</b>	<b>11/10/22 5:00 PM</b>		
Implementing PHONEPASS API	2 days	10/27/22 8:00 AM	10/28/22 5:00 PM		Edbert
Implementing STEPPAY API	2 days	10/27/22 8:00 AM	10/28/22 5:00 PM		Carlos
Connecting PHONEPASS with STEPPAY	4 days	11/5/22 8:00 AM	11/10/22 5:00 PM	2;3	Carlos;Edbert
<input checked="" type="checkbox"/> <b>Implementing larger stream</b>	<b>6 days</b>	<b>10/27/22 8:00 AM</b>	<b>11/3/22 5:00 PM</b>		
Create user database	1 day	10/27/22 8:00 AM	10/27/22 5:00 PM		Jonathan
Create access point database	1 day	10/27/22 8:00 AM	10/27/22 5:00 PM		Jonathan
Create subscription database	1 day	10/28/22 8:00 AM	10/28/22 5:00 PM	6;7	Jonathan
Connecting APIs with database	4 days	10/31/22 8:00 AM	11/3/22 5:00 PM	8	Carlos;Edbert;Jonathan
<input checked="" type="checkbox"/> <b>Creating the prototype</b>	<b>12 days</b>	<b>11/4/22 8:00 AM</b>	<b>11/21/22 5:00 PM</b>	<b>5</b>	
Creating user interface	5 days	11/4/22 8:00 AM	11/10/22 5:00 PM		Carlos;Edbert;Jonathan
Connecting the application with the APIs	7 days	11/11/22 8:00 AM	11/21/22 5:00 PM	11	Carlos;Edbert;Jonathan

