

# A Motorbike Share Economy Platform for NTHU

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**Abstract.** For people living in the small city of Hsinchu, Taiwan specially students at NTHU, the easiest, quickest and most affordable way of travelling is by motorbike. However not everyone is able to afford a motorbike, and not everyone is using their motorbike at all times. In the society we live now share economy and being able to put idle resources into good use even to the point of being able to make a profit out of it has become a very important part of our lives. This is an opportunity for students to make some pocket money, and also for students who cannot afford a bike and are in need of one to be able to have quick and easy access to one, without having to go outside campus, or need to take the public transport in Hsinchu which is very lacking and underdeveloped. So this study aims to create a share economy platform for people at NTHU to be able to rent their motorbikes to others if they are not using it, and for people who are in need of a motorbike to get around the city to be able to have easy access to one. The platform will be presented in the form of a smartphone application for users of both ends, people who want to rent out their motorbikes, and people without a motorbike to rent one.

**Keywords.** Motorbikes, share economy, platform

## Introduction

Motorbikes are the most common and most used form of transportation in Taiwan. As for smaller cities such as Hsinchu, which still have an underdeveloped public transportation system without something such as the MRT in Taipei, owning a motorbike, or travelling around the city in a motorbike is the easiest, quickest and most affordable way to do so. The biggest advantage it has over a car is that it is first of all much easier to find a parking spot, and second of all is that even if you do find a parking spot, motorbikes do not require a parking fee.

This is even more so the case for students. When students wish to travel around the city they will choose to go by motorbike before any other form of transport. The second choice would be by taxi, but unless it is very far away, difficult to get there by motorbike or the fact that many students are getting one taxi to share the taxi fare, students will still pick a motorbike. Now a new problem arises, even though some students do own a motorbike of their own, still most students do not own one. Among students who do not own one there

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will be two different scenarios, one where simply they cannot afford one, and second will be a student that does not have a motorbike license and therefore has no need of owning one. For the people who do not have a motorbike and wish to travel by motorbike, they can either borrow a motorbike from a friend/acquaintance, this is an unreliable solution as they might not be willing due to personal reasons, or might not be able to lend it due to him/her using it at the given time or choose another form of transport. The other thing to consider here is that students who do own a motorbike will not be using it 24/7.

Considering all the above, this creates a great opportunity for both motorbike owners and people in demand for motorbikes, an opportunity to create a share economy platform for motorbikes in NTHU. Share economy is where people share their resources with other people, such as how Air bnb, or uber works. This study aims to create the share economy platform for motorbikes in NTHU and will do so by developing a smartphone application for users of both ends. This share economy platform aims to create a viable solution to the above mentioned issues which will allow motorbike owning students to share their idle resource and make a profit out of it, whereas students who are in need of a motorbike will have an easily and quickly accessible motorbike they can use.

## **1. Literature Review**

Share economy has become very popular in recent years with emerging companies such as Airbnb or Uber who have become billion dollar companies, and the way they work is by acting as a third person that does not provide the service directly but allows a peer to peer interaction where resources are shared amongst people. But as a relatively new business model we have to ask, is it a sustainable business model? Why are people willing to participate? Are there any issues or challenges with share economy? Therefore some literature review helped answer these questions.

### *1.1 Sustainability of Share economy*

Share economy has now become the business model for many startups, big companies and it has become part of our daily lives where many of us participate in share economy on a daily basis. But is share economy a viable and sustainable business model? As mentioned by [3] the share economy models will change overtime due to changing customers' requirements, changing markets, technologies etc. and therefore it will be recognized as a part of sharing economy driven by separate sustainability drivers: social drivers, economic drivers, environmental and technological drivers. But mainly the sharing economy business models economic sustainability drivers are based on the power of income toward access over ownership. Their results show that if a company, by implementing more sustainable development practice, can achieve a high level of sustainability.

Even though it is difficult to define and set the sustainability of share economy as a business model, it does show a potential to work towards a sustainable model and already shows signs of sustainability.

Other papers have look at sustainability from a different perspective, not as a business model but as environmentalism and sustainable development point of view. [1]

provides views such as how the concept and practice of a “sharing economy” and “collaborative consumption” suggest making use of market intelligence to foster a more collaborative and sustainable society. Where there are prominent examples such as carsharing or web-based peer-to-peer platforms. This study believes that share economy has the potential to serve as an umbrella concept that may bring together and re-frame older and recent alternative forms of economic activity and their academic conceptualization. In addition it states that as a potential new pathway to sustainable development, the sharing economy should become a subject of research for inter- and transdisciplinary sustainability science.

### *1.2 Why people participate in share economy*

Due to share economy becoming such a big part of our lives we should understand why people participate in share economy, and also who benefits from share economy. A study and questionnaire conducted by [4] had a few implications for providers of share economy platforms and services. The service should be pleasurable to use because enjoyment is an important motivator. The problem of free-riders can be alleviated using trust systems or gamification, or even by employing stricter resource allocation mechanisms that enforce contribution and not just consumption. So they concluded that people participate in share economy due to factors such as sustainability, enjoyment of the activity and economic gains.

A big part of why people participate in share economy is due to trust and reputation and the study conducted by [5] showed that guests on Airbnb not only use listing's information but also the hosts' information to make their decision. And there is a robust reliance on visual information such as personal photos. Where both visual and non-visual information has an additive effect on trust building.

### *1.3 Issues and challenges faces by share economy*

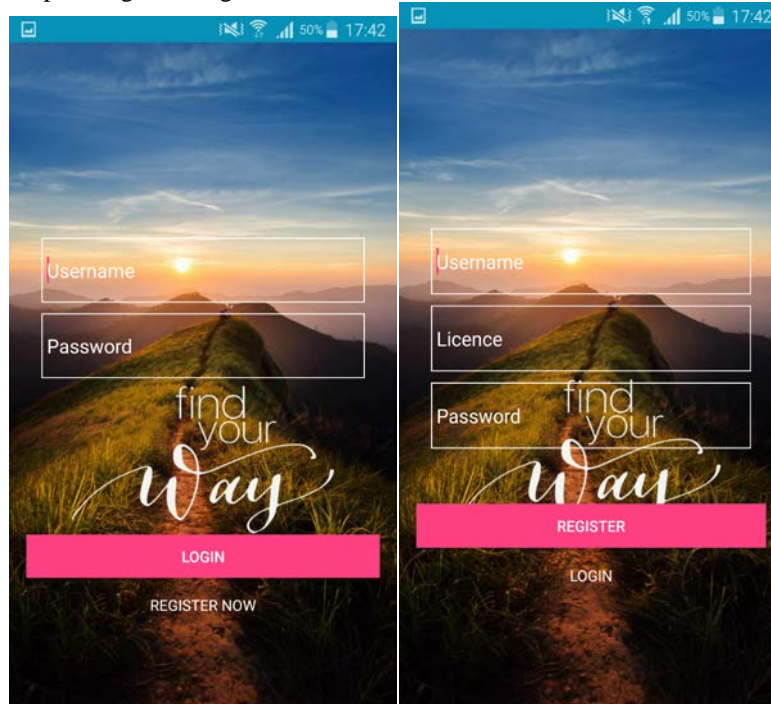
The way share economy function has disrupted traditional industries around the globe. And as mentioned by [2] many governments have not received these companies with open arms and have issued subpoenas, cease- and -desist orders. And regulation is the most significant barrier facing share economy. So [2] provides a few ways as to how to deal with regulations: Be responsive to regulators' legitimate concerns, use state of the art approaches to reaching out to government, share your data, Make a well-researched case for the value provided by your firm and Find the best regulations out there and share them with the government.

[7] discusses the dark side of share economy and how to lighten it. It discusses issues of share economy such as the unfairness of uber drivers and taxi drivers not being able to compete with their low costs due to taxes. Or issues such as how short term rentals create shortages of affordable long term housing. It also provides some solutions such as asking companies to invest in your customers as it teaches them how to provide better quality services and in turn will have greater economic gains. In addition policing the community and self-regulation combined with authentic reviews and fair access of resources will help lighten the dark sides of share economy.

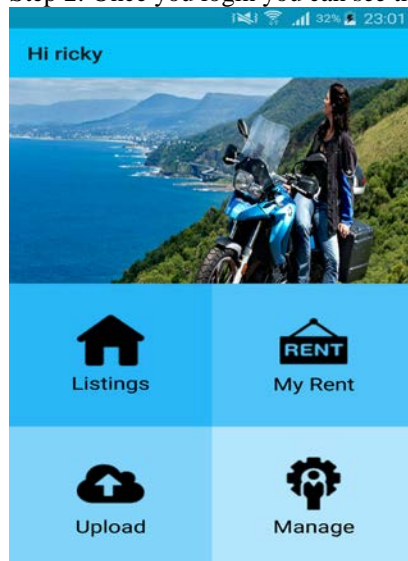
## 2. Method

So by using Android Studio and the data base mysql, and connecting the two, the app can allow users to upload and rent motorbikes, and show the motorbikes they have rented, or whoever has rented their motorbike.

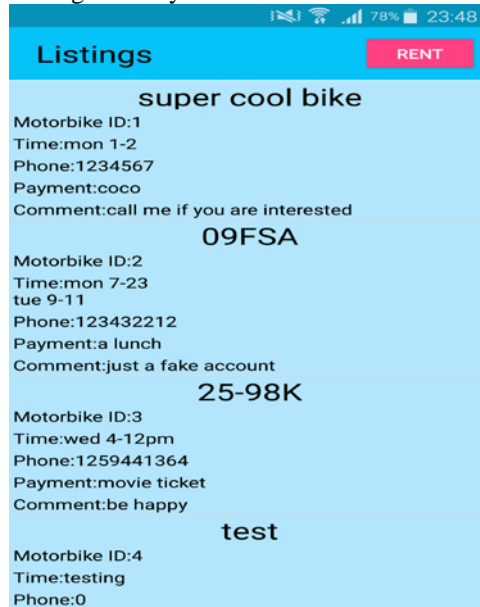
Step 1: Login or Register



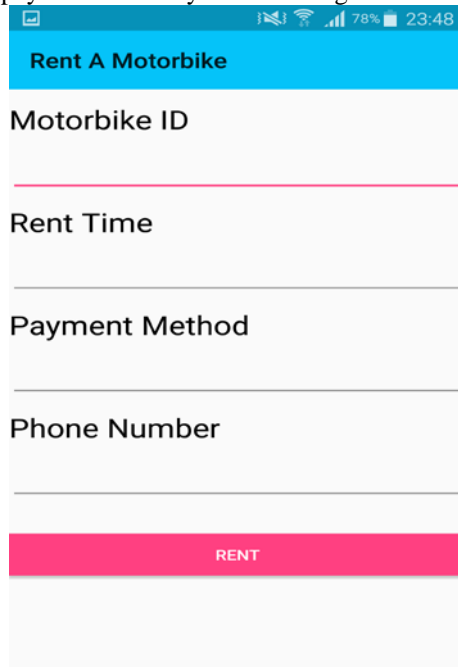
Step 2: Once you login you can see this homepage



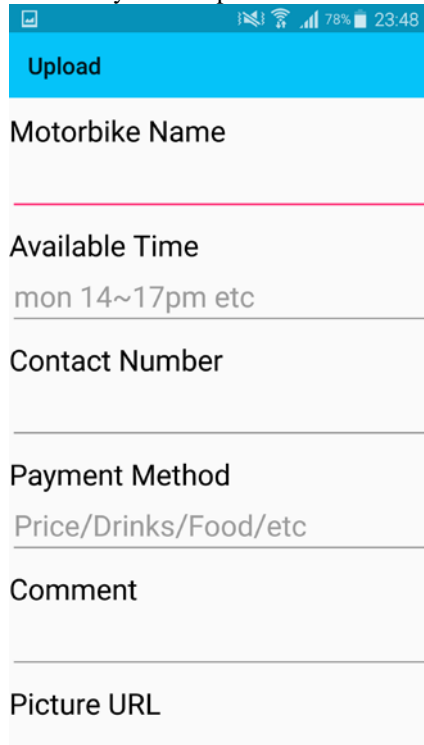
Listings: here you will see all the motorbikes that are available for rental.



Renting a Motorbike: Here you can type what motorbike, when you want to rent it, the payment method you are willing to use and your contact details.



Upload: Here you can upload the details of the motorbike you wish to upload.



Upload

Motorbike Name

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Available Time  
mon 14~17pm etc

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Contact Number

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Payment Method  
Price/Drinks/Food/etc

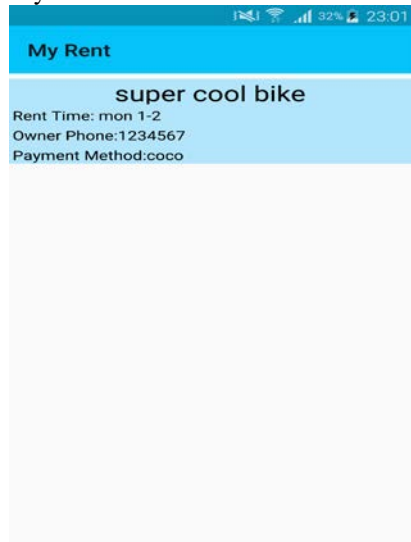
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Comment

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Picture URL

My rent: This is to see all the motorbikes you have rented

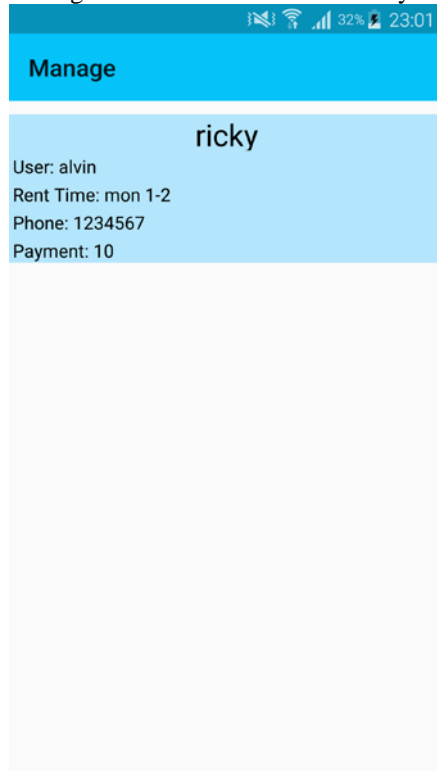


My Rent

**super cool bike**

Rent Time: mon 1-2  
Owner Phone:1234567  
Payment Method:coco

Manage: For users who have rented your motorbike, here is where you can see.



### 3. Case Study

#### 3.1 Introduction

Airbnb helps you list, find, and rent lodgings. It has over 1,500,000 listings in 34,000 cities and 190 countries. Founded in August 2008 and headquartered in San Francisco, California, the company is privately owned and operated by Airbnb, Inc.

#### 3.2 The idea

The idea behind Airbnb is that Both creators wanted to create a network for people to list their properties online, for anyone interested. They wanted to create a more personal experience for people travelling anywhere in the world.

#### 3.3 Execution

As they were starting out in the summer of 2008, the founders were in the need of investments. Their site wasn't getting the attention they thought it would. But Airbed & Breakfast soon joined Y Combinator's 2009 winter class, receiving \$20,000 in funding. They renamed the business Airbnb, and soon received another \$600k in a seed round from Sequoia Capital and Y Ventures.

As the site started getting traction, more people started listing their properties there. Airbnb even found a way to interact with people who had listed their properties

on Craigslist and presented to them a better place to list their properties. While looking at how to improve the site performance, the team noticed, that most of the listing were very plain and had no traction. People were using images that were of no use. To remedy this, they sponsored professional photographers, initially in NY area and then on a big scale, to take professional pictures which were then uploaded to the website. This not only helped in generating better results, but also helped in verifying addresses.

### *3.4 Obstacles*

Airbnb has its share of roadblocks. Airbnb has been a huge disrupter in its Industry. It has gotten opposition of Big hotels. One of the main issues it has had to deal with is that of a guarantee for users. So in 2011 they introduced a 24-hour helpline and several more improved security measures. In May 2012, Airbnb partnered with Lloyds of London to expand their guarantee even further, covering every booking with their \$1,000,000 Host Guarantee.

## **4. Conclusion**

This research intended to create a motorbike share economy platform through a smartphone application. And by taking a look at existing share economy platforms understand how they work in order to implement our own ideas into them. The app would allow people to register themselves, and then either rent out their motorbike, or look for a motorbike to rent. As all share economy platforms are, the ability for the app to be able to work, it has to be built upon trust within the users and the reputation of each user, and this can be done so by ratings, and reviews of both the motorbike owners who are renting out their bikes, and the ones who are seeking to rent a bike. Those with higher ratings and good reviews will more likely be approached than those with lower ratings and bad reviews.

In the future, I wish to combine social media with the platform as a way to make new friends, through the renting of bikes. As students cannot only use this platform to share resources but use it as an opportunity to get to know new people.

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