



# CS3216 Final Report

Herbert Ilhan Tanujaya | A0144892W

Lau Kar Rui | A0155936U

Ng Wei Jie, Brandon | A0184893L

Zhu Hanming | A0196737L

---

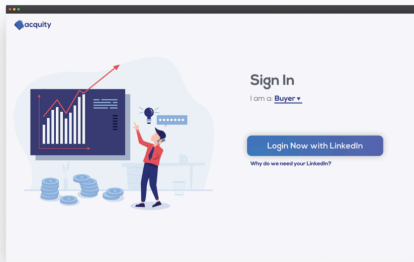
<b>What is Acquity?</b>	<b>3</b>
<b>Existing Applications</b>	<b>4</b>
<b>Review of Milestones and Timeline</b>	<b>5</b>
Timeline	5
Progress Report 1	5
Progress Report 2	6
<b>Contributions, Roles &amp; Resources</b>	<b>8</b>
Our Team	8
Our Advisors & Partners	8
Resources Used	9
<b>Application Design</b>	<b>10</b>
User Flow	10
Matching Algorithm	11
Database ER Diagram	11
APIs	11
Source Code	11
Design Considerations	12
Key Principles of Acquity	14
<b>User Report</b>	<b>15</b>
<b>Future Plans &amp; Strategies</b>	<b>17</b>
User Experience	17
Encryption	17
Strengthening Relationships with Companies	18
Expansion of Selection	18
Other Features	18
<b>Insights &amp; Learning Points</b>	<b>19</b>
Private Equity	19
Execution	19
Sales and Marketing	20
Conclusion	20

# What is Acquity?

Shareholders owning shares of private companies often want to sell their shares, but are unable to sell them on the public stock market. Going through the private stock exchange markets meant a hefty commission fee, ranging from 5-10%, would be charged due to legal counsel at the beginning of the negotiations. Furthermore, the process of finding a buyer can take weeks due to wariness towards private equity.

Acquity aspires to be a non-profit, open-source platform that connects potential buyers and sellers of private equity. Handling no transaction on behalf of the buyers and sellers, Acquity's system works by having sellers - shareholders of private equity - enter their intent to sell their stocks into an "order-book", and buyers enter their intent to purchase stocks at a certain price, before matching them.

Throughout this whole process, the identities of both sellers and buyers are not exposed publicly, akin to a dark-pool trading system. When there are enough buyers and sellers on the system, the seller and buyers are matched. They are then allowed to chat anonymously until both parties agree to a certain quantity and price, and reveal their identities.



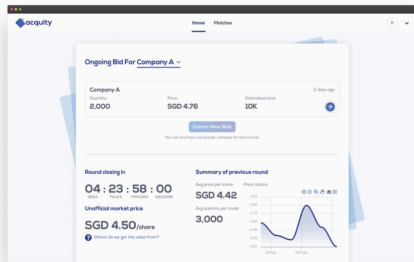
**Sign In**  
I am a **Buyer**

Login Now with LinkedIn

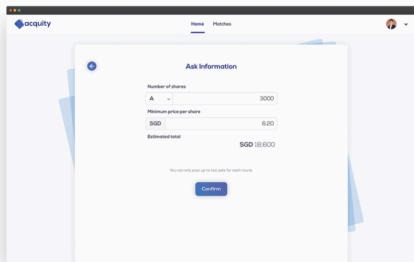
Why do we need your LinkedIn?

## Create Account

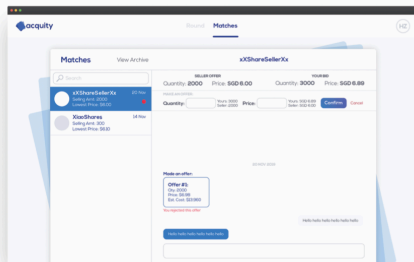
Join Acquity in a single click!



**View Market**  
View existing bids and market information.



**Submit Bid / Ask**  
Indicate your interest to buy or sell easily.



**Start Chatting**  
Get matched and find your perfect trader!

---

## Existing Applications

One platform that is similar to Acquity is EquityZen. Based in the US, EquityZen is similar to Acquity in that it helps employees unlock the value of their equity compensation. However, the process of buying the shares on EquityZen is different. When purchasing shares, the buyer is, in fact, purchasing ownership of EquityZen funds that own the shares of the company. Buyers cannot buy shares directly from shareholders due to various legal issues. Furthermore, every transaction has to go through the company. Acquity is distinguishing itself as it directly empowers the trade of private shares between a shareholder and a buyer. Acquity also gives shareholders of the same company the freedom to get onboard and start selling - they simply need to set up a voluntary committee to do so.

Another platform that is similar to Acquity is FundedX. FundedX is similar to Acquity in enabling investors interested in private companies and startups to trade shares more freely, and in giving shareholders more exit options. FundedX also has an algorithm matching system to pair buyers and sellers. The main difference is that FundedX aims to have end-to-end process for the transactions while Acquity only matches buyers and sellers up to the point where both parties agree to the final offer. This is due to various legal issues that may occur. For example, FundedX has since ceased operations as its current business model is not licensed under their current license obtained from the Monetary Authority of Singapore. This is due to the lack of price discovery and formation on their platform - a feature in private stock exchange. Acquity is safe from this requirement as no money goes through our platform, although we do have a chat system where buyers and sellers can negotiate on the shares to facilitate price discovery.

There are other similar platforms running dark-pools. Examples of dark-pools are Bloomberg's Bloomberg Tradebook, Morgan Stanley's MS Pool, and Goldman's Sachs's Sigma X. However, they only provide publicly-traded securities, and not private equities like Grab shares. Acquity is targeting people who want to buy or sell private shares.

Ultimately, what makes Acquity unique is the problem that we are trying to solve, and our stance. Acquity is, currently, very much seller-centric, and aims to help shareholders of private companies exit. We are clear in not supporting any monetary transactions over our platform and in our non-profit nature, as these would create doubt in our platform, given the fact that we are operating with asymmetric information. We are also an open source project, to be transparent in our operations and to facilitate the joining of shareholders of other private companies. All of these are core principles that guide Acquity's decisions, and are what makes Acquity unique.

---

## Review of Milestones and Timeline

Before we delve further into the implementation and design of the application, our team would like to first review our progress along the way, from the start to the end.

### Timeline

The table below depicts the timeline set for the development of Acquity. The team managed to hit all deadlines, except for the feature in **purple**. The reason for not hitting that particular deadline was due to changes in the login flow, where the team decided to have the user authenticated solely through LinkedIn, and not the email address and password system we originally built.

Date	Milestones
7 October 2019	<ul style="list-style-type: none"><li>• Complete first iteration of mockups</li><li>• Set up repositories, servers and databases</li><li>• Decide on a suitable technological stack for the project</li></ul>
14 October 2019	<ul style="list-style-type: none"><li>• Complete Progress Report 1</li><li>• <b>Implement signup/login feature - subsequently LinkedIn login</b></li><li>• Build the feature to allow users to make bids and asks</li><li>• Build the feature to allow users to modify bids and asks</li></ul>
28 October 2019	<ul style="list-style-type: none"><li>• Complete Progress Report 2</li><li>• Develop the matching algorithm to match buyers and sellers</li><li>• Set up chat functionality for price discovery</li><li>• Present our minimum viable product to project partners</li></ul>
4 November 2019	<ul style="list-style-type: none"><li>• Complete In-Class Progress Report</li><li>• Continue to develop our matching algorithm</li><li>• Test our systems for bugs manually</li><li>• Write more test cases to handle edge cases</li><li>• Finish up the remaining tasks from the previous week</li></ul>
13 November 2019	<ul style="list-style-type: none"><li>• Finish up the remaining tasks from the previous week</li><li>• Implement features in our stretch goals</li><li>• Present at SOC STePS</li></ul>
17 November 2019	<ul style="list-style-type: none"><li>• Complete Final Report</li></ul>

### Progress Report 1

The main discussion point for Progress Report 1 was our proposed approach to matching buyers and sellers on Acquity. The team decided that the “Multi-Pronged Delayed Book Matching” approach suited our use case. This approach requires buyers and sellers to place their bids and asks, the names of their intents respectively, into a pool. When enough shares are in the pool, the matching round starts. After a week, the matching round would end, and the buyers and sellers are matched. The matched buyer and seller

---

are then allowed to confirm their bids and asks in the chatroom, and take the deal further outside Acquity.

The key problem we aimed to overcome was to prevent any fraudulent behaviour from both the buyers and sellers. Our idea before this was to match any user immediately, based on existing intents in our system, allowing them to start chatting immediately. This would be somewhat like speed dating - except that money is involved. Thus, we foresaw the high possibility of users simply testing the market by placing unreasonably priced bids e.g. very high buying prices for buyers and illegally (lower than the internal selling price) low selling prices for sellers, simply to get matched before re-negotiating, or to phish for information.

The distinctive feature in the “Multi-Pronged Delayed Book Matching” that helps to overcome this problem is the time lapsed between rounds in our round-based system. The matching is only done at the end of each round, with the bids and asks that were placed during that round. This prevents high-frequency users from testing the market and makes them take each round more seriously, as they would have limited bids or asks each round. Furthermore, this increases the quality of our matching, as instead of having to match each new bid or ask to ones existing on the system, we now collate all of them before we match them at one go.

We also foresaw the possibility of showing some statistics from previous rounds, which would also reduce the need for information phishing. After all, we do understand the frustration in trying to trade without knowing all possible information.

This laid the groundwork for the upcoming weeks. The team met with our partners, Wei and his team, to run through with them our proposed matching strategy before we started working on the actual algorithm.

## **Progress Report 2**

The main discussion point for Progress Report 2 was what we clarified with Wei and his team on 22 October 2019. They were approving of most parts of the application that the team presented, which included the front-end design, round-based system and the preliminary algorithm.

However, Wei and his team saw a different solution to the issue of fraudulent behaviour from buyers and sellers - by increasing the friction and checks for buyers. They simply did not want any non-serious buyers in the system at all. For that, they wanted to have a voluntary committee set up to screen through all buyers, to weed out non-serious ones. This would be a requirement for any subsequent shareholders of other companies to join our platform.

---

This resulted in a slight change in our approach, as the team wanted to reduce the impact that non-serious buyers could potentially have on our system, algorithm and market through our round-based system and curated matching algorithm. This reduced the focus on that aspect. There was now an increased focus on the user experience, as users now have to go through checks and wait for approval - an experience that is not too pleasant.

The changes did not affect the timeline heavily as the team allocated buffer time for unexpected changes. The team also continued to touch up the user experience continuously.

---

# Contributions, Roles & Resources

## Our Team

### **Herbert Ilhan Tanujaya: in charge of backend**

- ❖ Set up the code structure
- ❖ Wrote the HTTP APIs
- ❖ Wrote the database schema and utilised ORM to perform business logic
- ❖ Implemented the matching algorithm
- ❖ Set up the necessary infrastructure, such as emails, deployment and scheduler (to perform the matching when the round ends)

### **Lau Kar Rui: in charge of frontend**

- ❖ Set up the code structure
- ❖ Consumed the API from the backend to present it to the user
- ❖ Styled the components
- ❖ Set up frontend deployment

### **Ng Wei Jie, Brandon: in charge of chat system**

- ❖ Researched the use of web sockets for the chat system, before settling on [socket.io](https://socket.io)
- ❖ Set up the infrastructure for chats
- ❖ Implemented various features on the chat system, both backend and frontend

### **Zhu Hanming: in charge of design**

- ❖ Designed the application and created hi-fi mockups
- ❖ Did the frontend and copywriting for the landing page
- ❖ Created marketing materials, such as the poster, video and presentation slides
- ❖ Created email templates to be used

## Our Advisors & Partners

### **Professor Ben Leong**

- ❖ Introduced the idea of Acquity to our team
- ❖ Introduced our team to the former Grab employees
- ❖ Gave us guidance throughout the way
- ❖ Advertised Acquity on his Facebook page

### **Former Grab Employees - Wei Zhu, Arul Kumaravel and Ke Liang**

- ❖ Introduced our team to the problem statement and suggested solutions
- ❖ Provided user feedback and advice along the way



---

## Resources Used

All resources used by Acquity are licensed accordingly.

### Fonts

Nexa Light and Nexa Bold by Svet Simov (FontFabric)

*Free for personal and commercial use under FontFabric Free Font EULA License*

Nexa Regular by Svet Simov (FontFabric)

*Purchased from and licensed under MyFonts*

### Landing Site Template

React Next Landing Page Templates by SuperProps

*Purchased from and licensed under Envato Market*

### Graphics

Isometric City Illustrations by andrewtimothy

Website Illustration Sets by hoangpts

Landing Site Templates by hoangpts

Empty State Mobile UI by hoangpts

Happy People, City Park and Business Process by Faber14

Abstract Macbook Pro Mockup by QalebStudio

Browser Mockup Vol-01 by tunerpixel

*Above all licensed under Envato Elements*

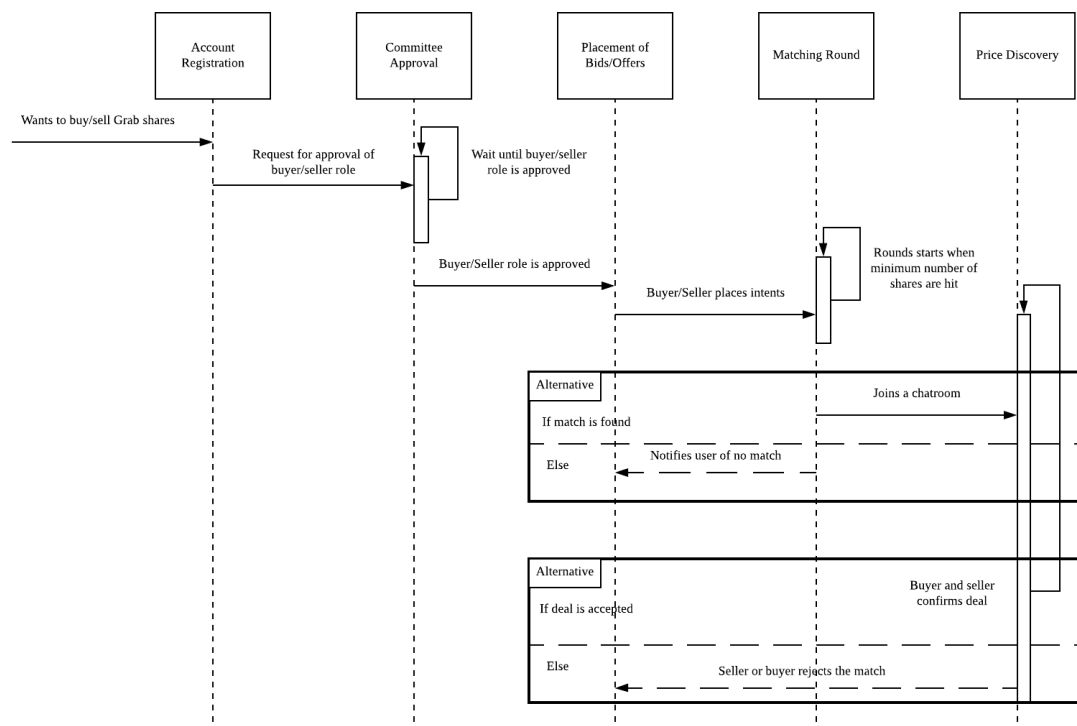
### Video Templates

Promote Your Product or Service with Gabriella by JBMotion

*Licensed under Envato Elements*

# Application Design

## User Flow



Acquity's user flow is as such:

1. Users register as buyers or sellers on the platform. They will require a LinkedIn account to register themselves on the platform.
2. Users have to wait for their accounts to be approved. Pending buyer accounts will still be able to place bids (not reflected in the diagram above), but the bids will not be finalised until their account has been approved. This is to increase retention.
3. Once their accounts have been approved, buyers and sellers can place bids and asks respectively. They are required to specify both price and quantity when placing.
4. When the number of shares exceeds a certain threshold, the round begins.
5. Buyers and sellers are allowed to create and modify their bids and asks any time before the round closes. Once the round closes, the matching algorithm runs, and buyers and sellers are matched.
6. After a buyer and seller are matched, they can chat to decide whether they are willing to proceed with the deal. This chat can only be initiated by the seller, and is done by making an offer, to speed things up and increase ease for seller.
7. Both parties can make offers via our chat system. At any point, the user can cancel the match. Both parties can choose whether they want to put their intents back into the pool.
8. If both the seller and the buyer agree to the offer made, the option to reveal their identity will be made available. Once both parties agree to reveal their identities, they can get each other's basic contact information and take the deal outside of Acquity.

- 
9. However, if the buyer or seller is not matched in this round, they are notified and recommended to modify their price and number of shares for the next round. They will have to create a new bid or ask on the system.

## Matching Algorithm

Acquity's matching algorithm aims to maximise utility. The pseudocode is given below:

1. Match all sellers with one buyer: every seller is matched with a buyer such that the prices and number of shares in that pair is matched as closely as possible. The buyer, once matched, is removed from the pool.
2. Match as many buyers possible with sellers
  - For every seller from lowest to highest ask price:
    - For every buyer from highest to lowest bid price:
      - If buyer's bid price > seller's ask price:
        - Match buyer and seller
        - Remove buyer from the pool

The matching algorithm allows:

- Every seller is matched with at least one buyer, if possible.
- Sellers who put a lower ask price are perceived to be more desperate and they are matched with more buyers
- Buyers who put a higher bid price are perceived to be more desperate and they have a greater probability of being matched with a seller
- Sellers can be matched with more than one buyer
- But each buyer is only matched with one seller

This asymmetry is because we foresee that there will be more buyers than sellers. We are also aiming to reduce the ability of buyers to "compare prices" and engage in undesired behaviour.

## Database ER Diagram

Please refer to [our diagram on dbdiagram.io](https://dbdiagram.io).

## APIs

Please refer to [our SwaggerHub](#).

## Source Code

The source code can be found on the [GitHub Team Repository](#).

The repo with the name *api* is the backend code, *web* is the frontend code, and *landing* is the landing page.

---

## Design Considerations

In this section, we aim to take a good look at what drives many of our decisions that we have covered above and will cover later. We will also seek to link some of the points that we have mentioned and contextualise them here.

### Nature of Market

Private equity exchange, as it deals with money, naturally comes with many regulations. This is why Acquity makes ourselves clear that we are **non-profit** and support no transactions on our platform. We simply do the matching.

We also understand that there may be demand for similar services from shareholders of other companies, not just from Grab. This is why Acquity is also an **open-source** project, allowing other shareholders to join in and sell their equity as well. This is also to increase transparency, especially amongst sellers, as they themselves can see the source code and understand how the platform is being run.

The value of private shares are also hard to determine accurately. The prices are mostly based on internal valuations and valuations during fundraising, and are often not reliable (see WeWork). Acquity tries our best in easing this asymmetric information by showing an unofficial price provided by the voluntary, non-profit committee, and **market information** from the previous rounds.

### Nature of Buyers

Acquity does not limit our buyer registration to only accredited investors, allowing for both big and small buyers. This comes with its own set of troubles as well, namely that non-serious or illegitimate buyers are also free to join. Therefore, we naturally would need to way to filter them out, lest the quality of experience drop for everyone else on the platform. We thus have the **committee approval system**, to ensure the legitimacy of every single user on our platform.

We also seek to reduce the ability of buyers to create bids with unreasonably high prices simply to get matched, and their ability to phish for information. As touched upon before, our **round-based system** is designed exactly for this. It limits the buyer's ability to get information just from repeatedly creating and cancelling bids, which would have been possible should the system perform matching immediately upon bid creation. Buyers are also matched with a single seller to reduce complexity, prevent comparisons between sellers and to ensure that buyers take their match seriously. Lastly, should they set a high price in their bid but drop the price greatly during price discovery in chat, sellers are also able to simply cancel on the buyer. The seller will also be able to provide feedback on that buyer - a feature that we are working on as a stretch goal, which we will touch upon later.

As buyers now have to wait for approval from the committee, in order to increase **retention** and interest, we also allow buyers to place bids, albeit unofficial until approval.

---

## Nature of Sellers

Many of the sellers of private equity want to protect their identities as much as possible. To them, anonymity is an important requirement. This is, perhaps, to prevent investors from easily finding out how many stocks they have and the price they are willing to sell at. Therefore, Acquity matches sellers and buyers **anonymously**. Even during price discovery via chat, both of their identities are not revealed until the very end.

Sellers are also looking for **speed and efficiency**. Our chat is thus designed with that in mind. The chat can only be initiated by the seller - designed to enable our sellers to be selective after matching - and it must start with an offer from the seller. This seeks to reduce time needed and helps sellers get right down to business. Sellers are also allowed to create up to two asks for each round - more than the one bid per round limitation for buyers - as we seek to facilitate more matching for the seller, especially since we are catering to rather big sellers as well.

Sellers are also looking for fairness when it comes to distributing buyers. One way Acquity answers that need is via our promise to match every seller **with at least one buyer**, as much as possible.

## User Interface and Experience

As equity trading is a serious business, Acquity naturally needs to give users reassurance that it is a serious and legitimate platform. One way we do so is via a **clean and professional** user interface, which was a key focus during the designing of the platform.

We also seek to create greater **trust** in our platform, to give ourselves more credibility. One way we do so is via the publicising of the committees for each company on our landing page. We make it very clear and transparent, and the background of this committee can help in improving our platform's image as well. There are plans in mind on how to bring this further, such as having our committee members tag themselves under the Acquity company page on LinkedIn, and them making a post about our platform.

Experience-wise, we seek to **engage** users more actively via email notifications. This is especially because our round-based system may cause some users to be disengaged.

We also require all users to associate their account with their **professional identity**. In this case, it is done via LinkedIn registration. This is to facilitate the checking by the committee as well as the post-chat offline transactions.

**Price ultimately matters** on our platform as well. Our algorithm ensures that the experience is intuitive. If you are a buyer who is willing to offer a higher price, you are more likely to get matched. If you are a seller who is willing to offer a lower price, you are more likely to get matched, and you are likely to get more matches. Thus the above systems designed to ensure users stay true to their prices matter are even more essential now.

---

## Key Principles of Acquity

The above considerations bring us to the six guiding principles behind all of Acquity's decisions.



**Round-based  
System to Ensure  
Volume & Success**



**Price-Sensitive  
Algorithm to Ensure  
Market Forces**



**Non-profit, Open-  
Source Service to  
Enhance Trading**



**Privacy & Identity  
Protection During  
Negotiation**



**At Least One Buyer  
Per Seller for Each  
Round**



**Consistent Updates  
on Any Changes to  
Market or Matches**

## User Report

Inside Acquity's database, we have a total of 100 users, 10 of whom are approved sellers and 90 being approved buyers.

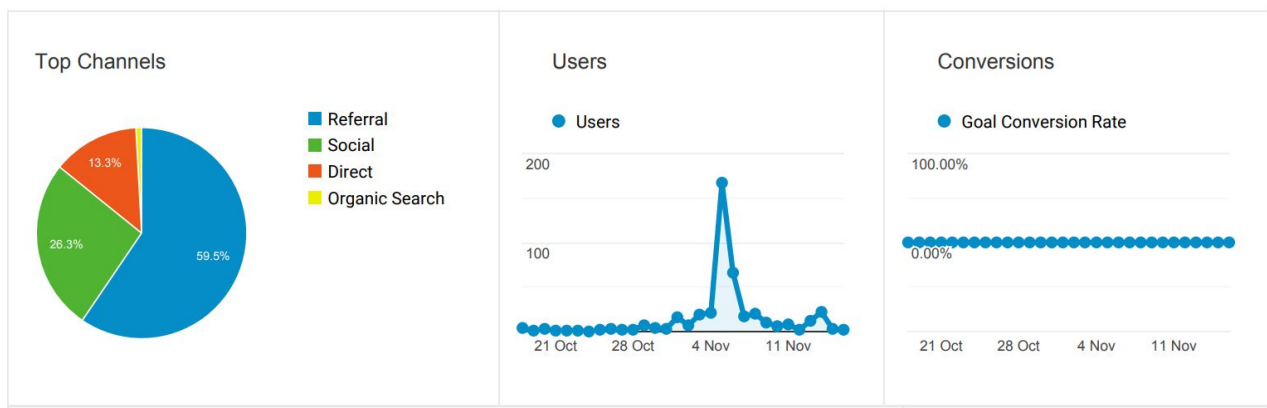
```
acquity::DATABASE=> select count(*) from users where can_buy = 't';
count
-----
      95
(1 row)

acquity::DATABASE=> select count(*) from users where can_sell = 't';
count
-----
      10
(1 row)

acquity::DATABASE=> select count(*) from users;
count
-----
     100
(1 row)
```

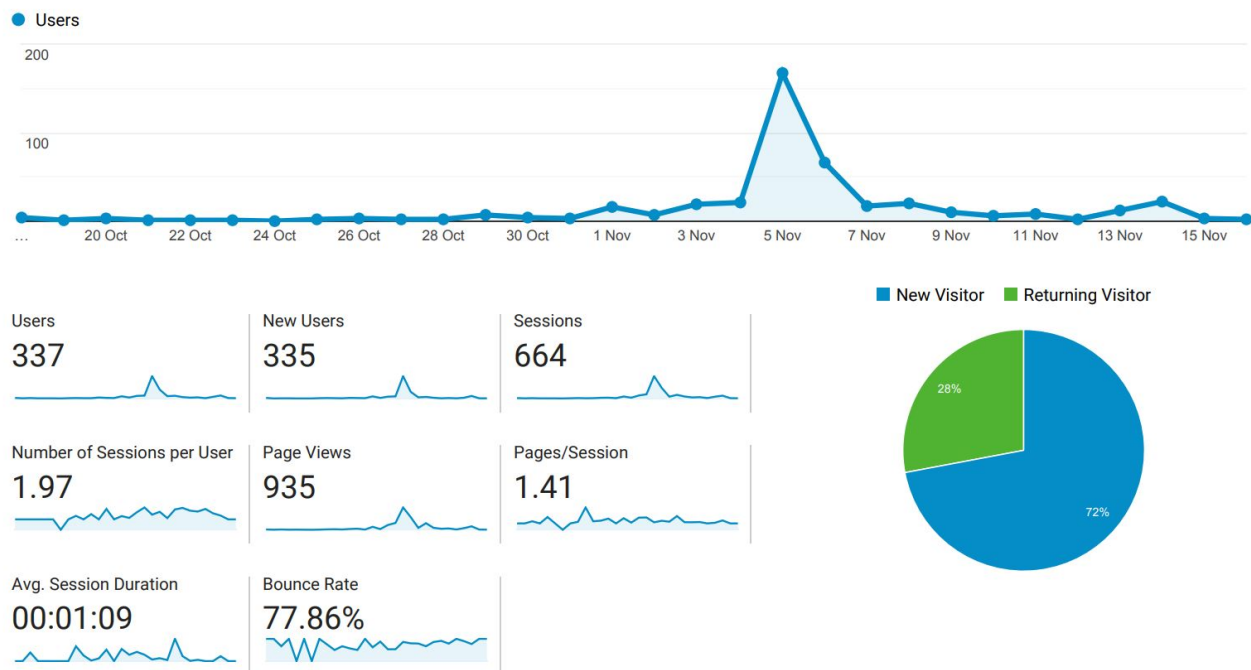
*There is an overlap of 5 users who are both buyers and sellers.*

On Google Analytics, we can see that the main traffic came from referral. This is likely the result of users visiting the landing page first before clicking into the app. The next source of traffic of Acquity came mainly through social media. This was likely due to Professor Ben Leong's advertisement for us through Facebook on 5th November 2019.



Acquity has a staggering 337 visitors and 335 page views as of this time of writing. The number of returning users is about 28%, making 90 returning, active users on Acquity. The number corresponds to the total number of users in the database.

The bounce rate is high at 77.86% and average session duration is low at 1 minute and 9 seconds. This was likely due to the delay in approving buyers and sellers on the system. When the users saw their intents being unapproved, they would leave the application.



In fact, Acquity has a decent number of visitors from other countries. There are about 9 visitors from US and 8 from Malaysia. These numbers demonstrate the potential international impact of this project if Acquity were to expand to other overseas private companies.

Country		Users	% Users
1.	Singapore	290	84.80%
2.	United States	9	2.63%
3.	Malaysia	8	2.34%
4.	Indonesia	6	1.75%
5.	China	5	1.46%
6.	India	5	1.46%
7.	United Kingdom	4	1.17%
8.	Vietnam	4	1.17%
9.	Hong Kong	2	0.58%
10.	United Arab Emirates	1	0.29%



---

## Future Plans & Strategies

### User Experience

The first stretch goal of Acquity is to improve our user experience (UX) even further. As covered under our Customer Contact Report, our UX has much room for improvement.

Firstly, there is a need for guidance on post-Acquity processes. We are looking to add guides to explain what the buyer and seller do after they have agreed on an intent. Private exchange deals with many logistical challenges that come with handling many shareholders and investors of a company. Currently, after seller and buyer confirms their intents to exchange private shares on Acquity, the logistics thereafter are handled off-platform by the Grab committee. The buyer and seller may not know what the next course of actions are. Therefore, the guides serve to explain how the transaction is made, and how they can finalise their transaction.

Secondly, there is also a need to come up with a more comprehensive user onboarding process, be it through better copywriting of the landing site or an improved flow on the app itself. Many of our (potential) customers have given us feedback on how confusing our system is to them. They do not get how our platform differs from others e.g. a platform for startups looking for angel investors, and they only understand the entire flow of our round-based system after much explanations. As one of our customers shared, it is indeed a concern for us, as our users are likely not to understand the mechanics of our system well within a short frame of time. We are currently looking into it, and are planning to build a tutorial page sometime soon.

Thirdly, as some buyers have shared, there is concern on how legitimate the unofficial share prices are, and on how little information there is on the system on the company itself. This lack of accessible references such as term sheets, company statements or pitch decks is difficult for us to handle, as we are ultimately working with asymmetric information. It is thus difficult for buyers to assess for themselves the value of the company's shares. Though we are looking to reduce the need for such information through our dashboard statistics on the previous round(s), we fundamentally cannot remain isolated from the market. A potential solution would be to collaborate with the companies themselves and request for information from them, or to request for such information from sellers when they sign up for our platform. This solution can go hand-in-hand with another solution that will be covered later, on how to prevent any backlash from companies.

### Encryption

The second stretch goal is to encrypt the database so that no developers or investors responsible for the application can randomly access the database. Our current plan is to

---

split the encryption key into three or more parts. Only when the people holding onto the different parts of the encryption key are together can the database be accessed. Without the encryption keys, anyone with database access can view the information within a round, and of the bids and asks. These are sensitive information that we simply cannot allow to leak. There are already known algorithms to achieve this goal, such as Shamir's Secret Sharing.

## **Strengthening Relationships with Companies**

The third plan is to look into how we can support the companies whose shareholders are on our platform better. One thing that we overlooked when creating Acquity was how our platform might actually affect the companies. After all, the sale of private equity on our platform will affect the companies' subsequent valuations. Thus, we can definitely look into how other platforms are doing it and learn from them. One way that we have considered is to have "seller stories" on the platform, to show that despite the fact that the sellers are selling their equity, they are still holding on to some shares as they have positive expectations of the company and its growth.

This increased support for companies may also enable us to work with them better, because as we have mentioned before, the issue of asymmetric information may be lessened should we be able to get information routinely from the companies, perhaps through its representative committees.

## **Expansion of Selection**

The fourth plan is to increase consumer base in Acquity, targeting unicorns and their employees. The team aims to have more companies' shares supported on the platform. Although our system has been optimised such that the addition of more companies can be done with ease, we have yet to streamline the onboarding process on this side.

The team also plans to advertise Acquity through social media, such as LinkedIn and Youtube. Besides, startup exhibitions can help in facilitating one-to-one marketing directly with these unicorns and other private companies.

## **Other Features**

Some other features that are stretch goals are, but not limited to:

- Feedback System
- Invitation System for Sellers
- Portfolio Curation for Sellers
  - Some sellers may wish to sell larger bulks for a lower price.
  - However, our algorithm currently seeks to maximise matching and thus does partial order matching.

---

## Insights & Learning Points

### Private Equity

Our team's main takeaway is definitely what we learnt about private equity, and the considerations that both buyers and sellers make before any decision. When we first saw Prof Ben's email on the opportunity to work on a Grab shares marketplace, our team was both excited and apprehensive. Excited because this was an opportunity to delve into a field none of us had experience in, but apprehensive because we did not know what lay ahead of us.

And we are glad that we took up the challenge. We learnt a lot from Wei and his team, and from Prof Ben and his advice. We consulted our potential users and buyers as well and got a stronger understanding of how intricate the problem we are trying to solve is. Unfortunately, when money gets involved, things are often very complicated. To balance expectations of both buyers and sellers - it was an arduous but rewarding task.

We fondly recall the early stages of our product development, where we had to really think through the algorithm, features and user experiences. How should the sellers be matched to the right buyers? How do we keep non-serious investors away from the system? How do we reduce unfair negotiations that would frustrate the users? We really put ourselves in their shoes and explored every possibility, and we had fun doing it. We learnt a lot more doing so, and got to understand the different pain points better.

Even now, we are realising that there are parts to the user experience that we have overlooked. We are still learning more about this whole market, about how other similar platforms are doing things, about various industry practices. This whole project is far from being a fruitless one. There are still so many things we can continue to work on. The product still has a long way to go before it's truly "perfect", but we are glad that we have managed to achieve what we have, and to have learnt so much along the way.

### Execution

Our next takeaway is from our failures. Our execution, unfortunately, did not go as smoothly as we hoped. Prof Ben helped us greatly with publicity, getting tens of users to join our system all within a few hours. Things were looking great, and we were all looking forward to seeing a round kick off within the day. However, that did not happen.

Our sellers, Wei and his team, had reservations about our system. Our team was also not clear enough in communicating what we wanted from them. Things ground to a halt. We were caught unprepared; our team had no backup plans and we did not foresee these happening. We could only try our best to communicate with the sellers and hope that things could go better. Sadly, it did not either.

---

Thankfully, we were later able to recover from this setback. With Prof Ben's help, we managed to get Wei's approval to carry on with the round. The round is still ongoing, but it has been running smoothly so far.

From this, we learnt. We learnt that execution is a lot harder than it seems - simply having a working product and a plan did not guarantee results of any kind. We learnt of the importance of clear communication - to understand our partners' needs better. We learnt of how crucial backup plan are. If things fell through, there needs to be some way to recover from it. All these are lessons that we learnt from this setback of ours.

## **Sales and Marketing**

The third learning outcome, which is somewhat related to the second, is the importance of sales and marketing. When Acquity was ready for launch, Prof Ben created a post on Facebook that advertised Acquity. There was a surge in the views and accounts in Acquity after that post. This was due to Prof Ben's large influence in the tech space and his diverse connections. Imagine having to do this advertising from scratch. Imagine having to convince a stranger, who is also a potential Grab investor, to use an application that was built in 6 weeks to exchange private shares. The number of users on the platform would be really low.

We also saw how difficult it was to accurately describe what we were doing to the layman and our potential customers. We struggled to put the pain points we were targeting into words, and to make it relatable to the common user. This was experienced during both brand copywriting and our STePS showcase. For copywriting, we took a long time before we settled on what we have on our landing site today - and even that is not enough.

For STePS, though many were impressed by the visual design of our platform, there was a visible lack of connection between many members of the audience and the problem we were trying to solve. Only individuals who were well-versed in the field (investment hobbyists, startup shareholders, etc.) saw the value in our product, and some shared about how they would genuinely love to use our platform. It was an upward battle initially for our team to present our product, but as the day passed, we got increasingly more well-versed and well-practiced. Surprisingly, we felt that we understood our own product better after pitching it to the audience.

## **Conclusion**

All in all, this final project has been a fruitful one for us all. We learnt a lot along the way, and really enjoyed ourselves during the process as well. Just as how our product will be helping others acquire knowledge, this final project has helped us acquire friendships, knowledge and experience (unfortunately, no Grab shares).