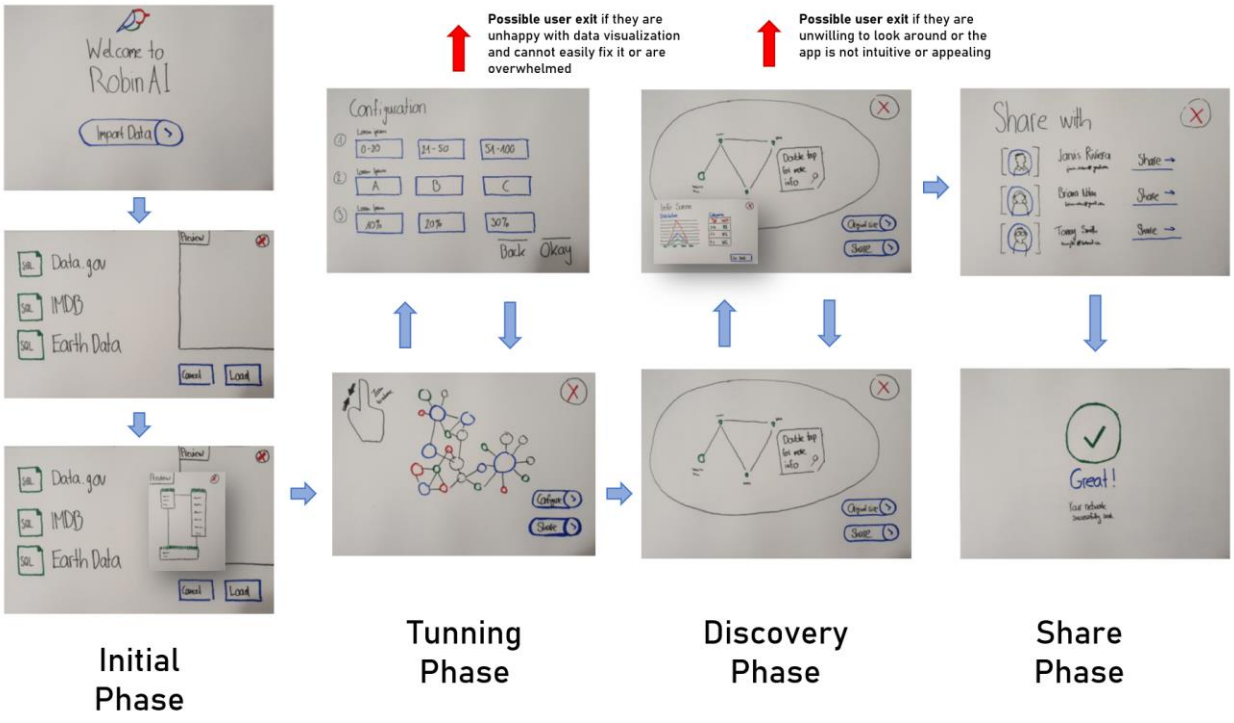
Figure: Outline of RobinAI paper prototype and task flow



Initial Phase:

Firstly, the user is welcomed to the application where they are prompted to login. The application is visualized to be available online if the users are comfortable with storing their data online or on premise if this is a better solution. Following this, the user will select which database or dataset they wish to explore.

Before generating the network visualization, the app shows the user a standard visualization of the data (e.g. a data model or a small sample from the data). This serves for the user to verify they have selected the correct dataset.

Tunning Phase:

Once selected, the software delivers an initial visualization. There is an option to configure the network visualization further, such as changing the number of connections or the shapes of the nodes. It is crucial that the user feels comfortable from the outset so as not to deter them from delving deeper into the data. For this reason, this is a crucial point. We have to offer quick results to the user, but these results must be tuned to not scare away the user with complexity. Additionally, the user must be aware of the option to configure their visualization to optimize their experience, else this may also deter them. We decided to offer the configure option only as a button now and trust the visualization algorithm to deliver good initial results. However we are strongly delving deeper into having the configuration option show up in a larger icon to make the user feel in control.

Additionally, because we are offering a new interface, from the in-class experiment, we learned that there is a need for guidance throughout the app. As a result, we plan on adding either a help button or some companion that is readily visible on the screen for users to follow.

Discovery Phase:

Now that the visualization is to the user's liking, we encourage the user to take advantage of the tactile experience offered by their device's touch screen and the 3D network model to embark on a discovery experience. By pinching and swiping, the user can manipulate the environment inside the application to move around their own data.

This experience is very different to what is presently available in applications like MS SQL Server, where priority is set on technical functionality rather than data visualization. Robin AI is tailored for data discovery and creating a stronger bond between users and their data (a bond that is less abstract and more tangible).

When a node is clicked, it will reveal its content. In the standard case of an SQL database, this content will be a table. This visualization will allow the user to see what data is stored there and how it is connected to the other data available.

It is not yet decided what information will be initially shown to give the user enough insight into what is contained in the node. Strong emphasis is placed on capturing the connections between the data as links between nodes. These links are derived from equivalent links present in an SQL database's relational model.

At this phase, it is still being determined if guidance should be provided (perhaps recommendations of where to look) or if it should be a completely unguided experience.

Sharing Phase:

Once the user has found something they deem interesting and worthy to share or perhaps they have a more technical colleague they would like to include to test out their journey, they can collect the specific part of the network visualization they are interested in and share it with another user in their organization.

This is one of the extended features and goals of Robin AI. By creating a stronger bond between users and data, there can be better communication between administrative and technical employees. Robin AI will create a shared experience and understanding of data, that can be used to improve their business.