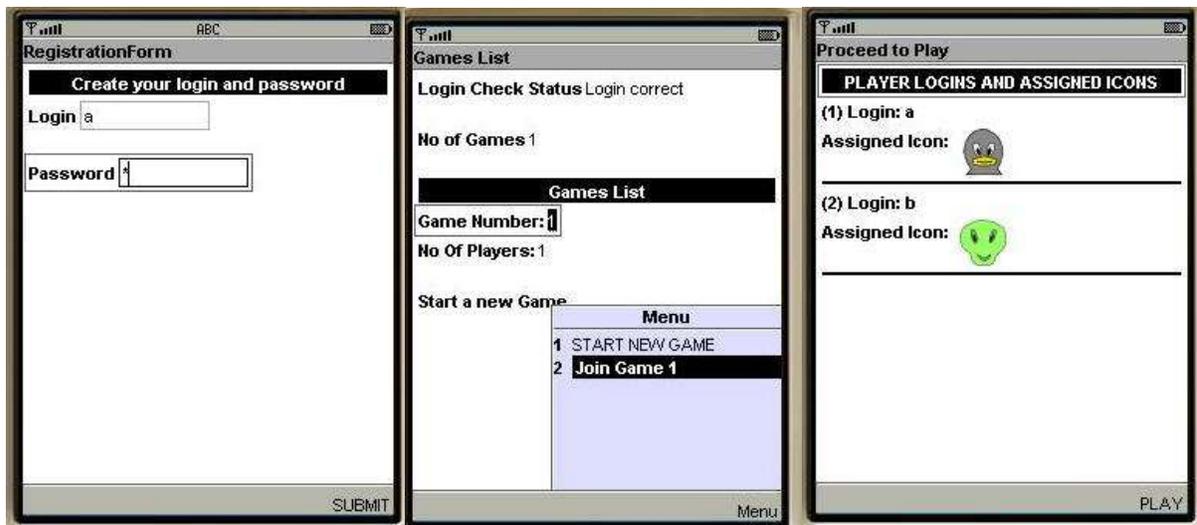


# Final Deliverable

## “Acquire” Game Description

The invocation of this game starts with a screen that asks for the server’s IP address. Key in the Server’s IP address and then submit the form. After that, you will be presented with the login screen. If the player has already registered with the server, he can login using his username/password or else he can register himself with the server. After player has logged in, he will be presented with the Games List. The games list has different games being played in the system and the number of players in each game will be displayed. The player can slide down to the game he wants to join or else he can start a new game. For each new game, the server creates whole new world of plots. After he has joined the game, he will be assigned an icon.



(a) Register Screen

(b) Join a Game/ Start a new game

(c) Icon allocation

Each player who logs in will have an initial number of mine units, food units, energy units, rokda units (or money units) to start the game with. After this, the game involves the following phases:

- Selection Phase
- Configuration & Production Phase
- Auction Phase

### The Selection Phase

The central server sends the game world of the game to the player. The game world is displayed to the player as square shaped, colored plot areas. If any of the plot areas are already selected by other players in the game, they will be marked with the corresponding players’ assigned icons. The colors of the plot areas are set according to the properties of the nine plots inside each plot area. The colors are set as the weighted sum of the three colors – red, green and blue signifying the three properties – Mine Value, Farming Value and Energy Value respectively. These three values have a value range of [1,4].



(a) Make Selection Screen

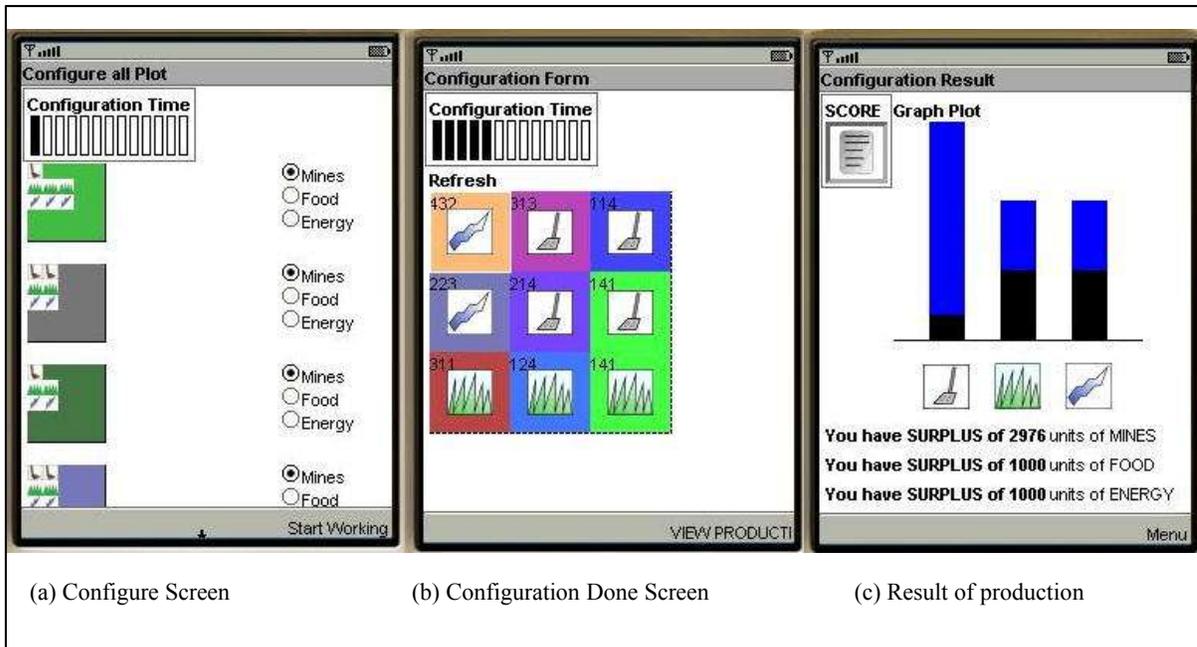
(b) Zoom of the plot area

(c) Selection Result Screen

There are five plot areas in a row and there are five rows. Each plot area can be further zoomed in to display the nine plots in each plot area. The player can go across the plot areas, zoom in and select the plot area he likes. The selection step is timed i.e., there is a particular amount of time (set by the server) within which he has to make a decision. The time gauge on the top of the screen shows the time elapsed. After making the selection decision, he sends his selection to the server. The server checks to see if there is any conflict with other players' selections. If there is a conflict, then server assigns the player a plot area that has nearest property values as the plot the player originally selected. The server then sends back the result of the selection phase.

### The Configuration and Production Phases

Once the selection step has been completed, the user proceeds to the Configuration Phase. This is the phase in which the user configures the sub plots of the plot area that he selected. He can configure each sub plot differently. He can decide this based on the properties of the plot or the shortage of products. The configuration phase is also timed. There are two ways in which the plots can be configured- one plot after another plot or all the plots together. In the one-after-another way, the user can select each subplot in his plot area to configure and then go back to the plot area and configure other plots similarly. The time remaining after he has configured a particular plot is the production time for that particular plot. For each subplot, the type of production as configured by the player and the time left after he configured will be recorded and stored in the record management store of the device.

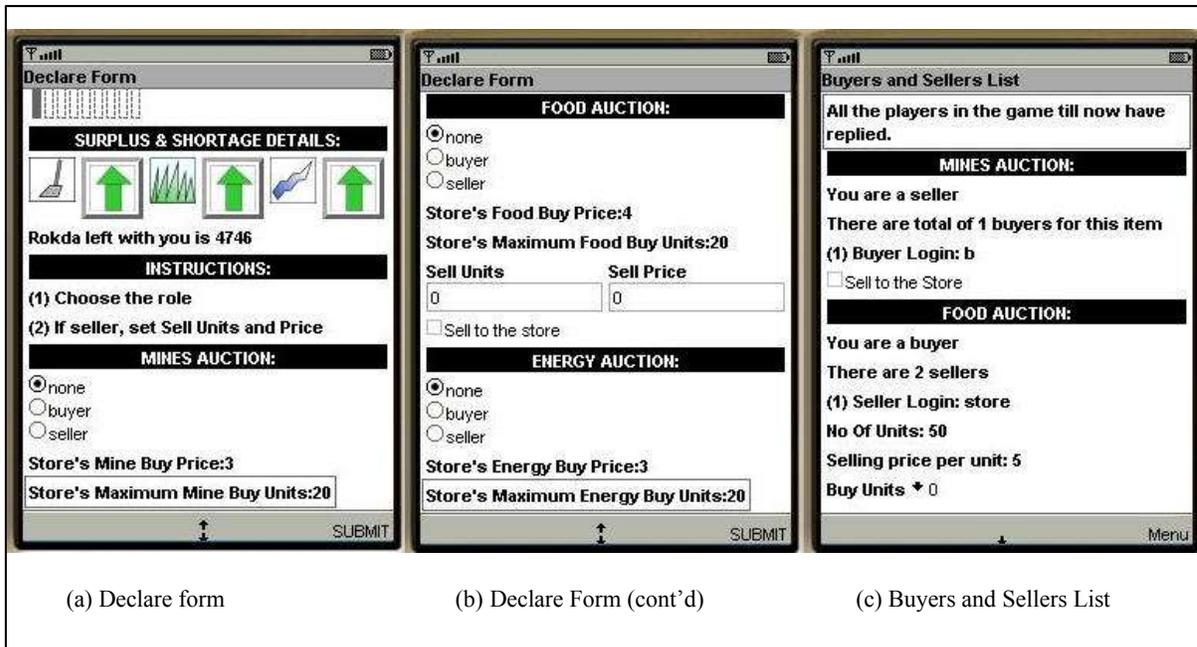


In the all-at-once way, he can configure all the sub plots at once in a single form. In this way, as all the plots are configured at once, the production time for all the sub plots will be the same and it will be the time left after configuring divided by nine as there are nine plots in each plot area.

The configuration details that are recorded will be sent to the server. The server calculates the production using the configuration details and the production formulae in its properties file. The server updates the score and sends back the production information and the critical units of each of the products to the client. The production information is displayed as a bar graph, with blue showing the surplus if he has any. If the client has more units than the critical units for each product type, he can go for the next round i.e., to the Selection phase to select another plot area and configure it. He can also go to Auction Phase to trade some of his excess stuff. But if he has less than critical units for any product type, he must go to the auction phase to gather the critical resources first.

### The Auction Phase

If the user selects to go to the Auction Phase, he will be led to a Declaration Form where the user needs to declare what role he would play for each type of product auction i.e., Mine Auction, Food Auction and Energy Auction. The roles he can choose from are buyer, seller or none. He will also be provided with the option of selling to the store. The store's maximum buy price and also the maximum number of units the store can buy in the game will be displayed to him. But this buy price usually would be very low. The user will not profit much if he chooses to sell to the store. But if he needs money/rokda units to proceed to the next round and there are no other buyers for that type or no buyer chooses to buy from him, then it is the only option. If the player decides to be the seller, then he has to set the selling price and the number of units he wishes to sell. Then he can submit his declaration and wait for other players to declare or go to the Selection phase.



After the role declaration submission, the user gets the relevant information from the server i.e., if the player is the seller, he gets the information of whether any players have declared themselves as buyers and if the player is the buyer, he gets the information of the sellers for that type of product and gets the information of how many units they are selling and at what price. Then the player can choose the number of units he wants to buy from each seller from the drop-down list displayed for each seller. When the player submits this decision, the server will do the trade immediately and the players' scores will be updated.

### ***Running “Acquire” game in an J2ME wireless toolkit***

1. Create a new project
2. Put the folder “acquireOOP” in the src folder of the project
3. Put the files in the res folder into the res folder of the project
4. Create the database tables given in the file named database\_schema.txt using MySQL database
5. Put the class files of the server in \webapps\examples\WEB-INF\classes of the Jakarta tomcat installation folder.
6. Put the web.xml file in the WEB-INF directory
7. Put the game.properties file in the same directory.
8. Run the server
9. Build and run the project in the wireless toolkit.

### ***Running the “Acquire” game on an actual device***

Various tools are available for deploying the MIDlet suites on the device. One of the choices is to use IBM's Websphere Device Developer Studio to create the project, device configuration, appropriate build for the device, and follow the steps listed to transfer the VM (J9 VM) files onto the device and then transfer the application files onto the device.