# Documentary Script

* Our startup video (2 words each)

**Hassan:** Wii-Car \*pause\*

A wifi car that could be the next upcoming monitoring play toy of this era. Wii-car is a compilation of one of the most advanced technologies provided within this area of excellence which we now call, “the smart world”.

This toy is compelled to work within a wifi region. An android smart phone app is used to drive the car and avail its functionalities.

**\*part of a video clip where Ahmar is using the accelerometer, also show a car turning right and left to show a feel of the times we test the car. Wii car test drive 2 that we made and behind this scene you’re saying the following line\***

The car is turned right and left using the android phone’s accelerometer for an interactive experience. (Show the client app snapshot, attached to this mail)

The app then sends a message to the other android phone that is placed in the car **\*show the server app in the video (the server app snap shot is attached to this mail)\***

The message is then sent via Bluetooth of the android device to the Bluetooth device attached to the car. **\*Show a picture of the Bluetooth device\***

The car also uploads it location to a web server so that it can be tracked. **\*Show the tracking map on the website\***

The communication was made possible by our android and communication engineer, “Ahmar Sultan.”

**“Play Ahmar’s interview video”**

Ahmar developed the app on eclipse and used TCP sockets to send message to the server app over a wifi network. The server app then receives a message and sends it to the Bluetooth device on the mother board of the car (Show the mother board. Image attached to this email).

And this is where our embedded engineer, Abdullah Baig comes in.

**\*Play Baig’s interview\***

The heart of car’s system is an advanced development board STM32F4 Discovery housing an ARM microcontroller and an HC-05 Bluetooth module. **\*Show discovery board and Baig working in IAR Workbench\*.** The microcontroller communicates to the server phone using Bluetooth over a UART channel and controls the motors using a set of digital signals and Pulse Width Modulated (PWM) signals generated using timers.

**Hassan:** Once the car was able to communicate and send control signals, the need was now to power the system and actually control the motors. Hassan Imam to the rescue!

**\*Play Hassan’s interview\***

**Hassan:** A custom made 2-layer PCB produces the 5 and 3.3 volts need to power the electronics. **\*NIGAM! WRITE A SENTENCE ABOUT THE CELLS\*.** Designed to neatly house the discovery board, the board also contains the motor driver IC L298, lights control and terminals for I/O. All work was done in Proteus. **\*Show Nigam working in Proteus (Need to capture that)\***

**Hassan:** Even the most breathtaking projects look dull without proper presentation. Now that the communication was done, the prime necessity was to create an app, designed sooo simply that anyone in the world could use that app and drives the car without the feel of confusion.

All was done by the android developer and designer, Asad Azam.

**\*play asads interview\***

**Hassan:** The last piece of the puzzle, the GPS tracking was an easy fish. An Apache http webserver is hosted on a computer on the network employing the XAMPP [ZAMP] stack. The car’s phone acquires it location using the GPS features and sends a GET to a URL on the server to upload the coordinates. The tracking webpage utilizes JavaScript and AJAX to query for new data and consumes Google Maps API to visualize the data on a map. **\*Don’t know what to show here! Think! Someone working in PHP, JavaScript, Dreamweaver maybe?\***