**TensionCamApp: System specification**

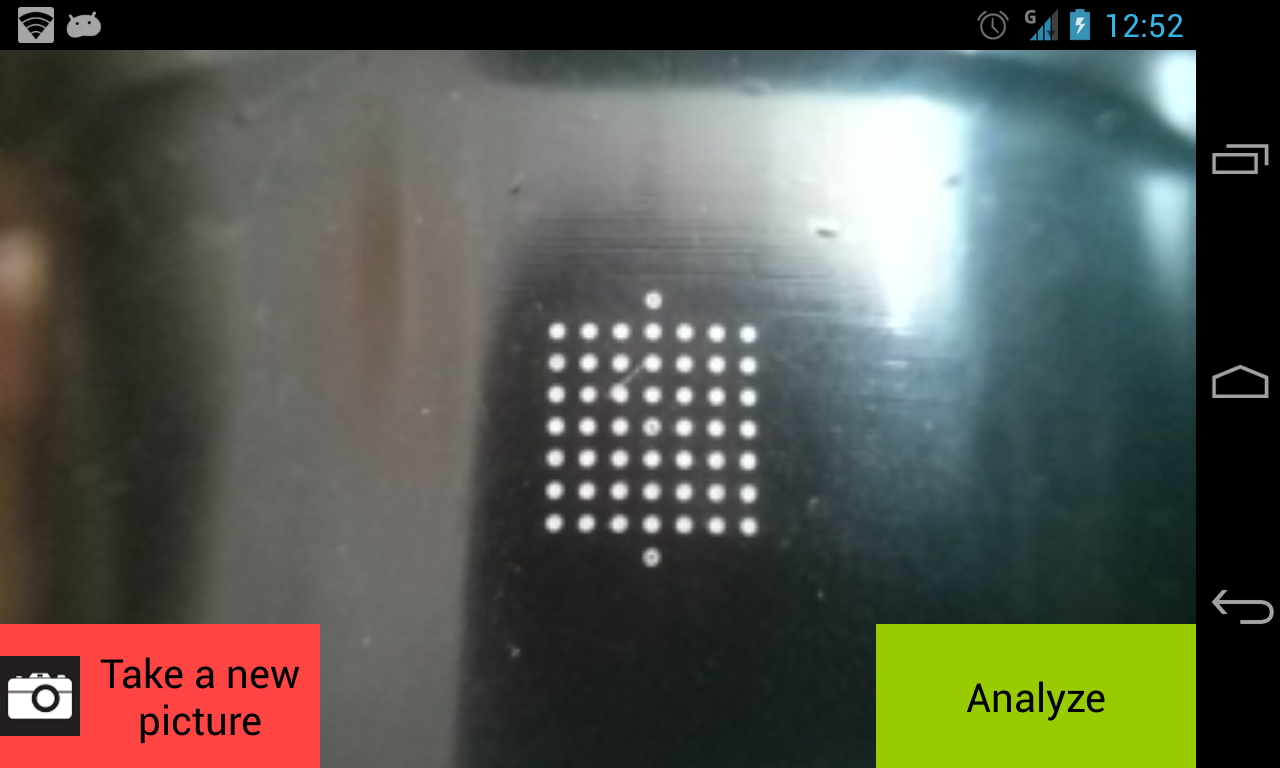
The app is designed based on our interpretation of our clients’ requests. During the formation and development of the application we mainly had two areas of focus; easy to use with no room for errors and extendable. Those two can be divided into two part where the first one mostly relates to the layout while the other second one mostly consists of logic and structure of the application.

**Easy to use**

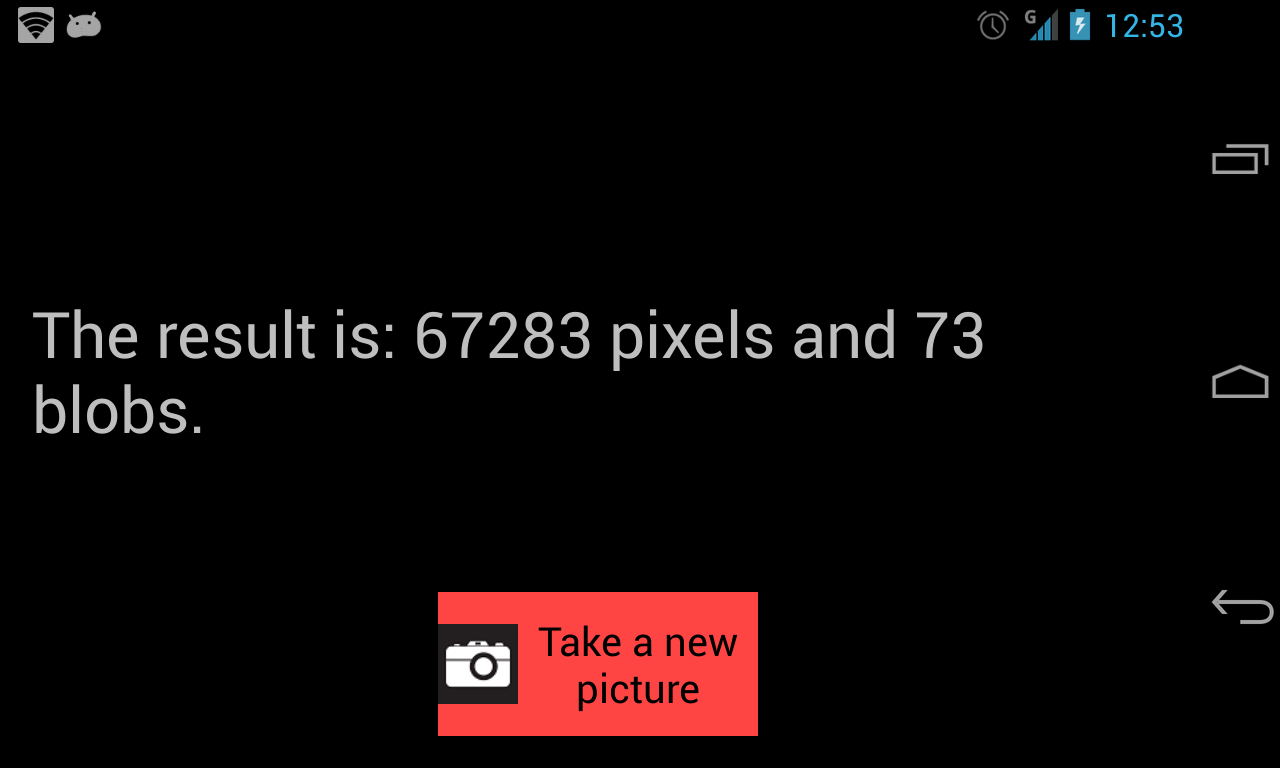
We aimed to minimize the clients’ options and required inputs and only provide and present the functionality that every user needs with a workflow that is as simple as possible. This is motivated by that the user often works in demanding environments such as climbing in wind power stations and therefore don’t have the time to mess around with the application. Another reason to minimize the users’ choices is to insure the same output of the external analyse program for the same input. It shows foremost in the application by that we only included necessary views, which after revision turned out to be three, and the buttons required to go through the whole process.



The screen is locked into landscape mode to insure the same type of input every time. We also added the option to turn on the flash because it depends on the user other equipment if it’s needed or not. We also tried to maximize the size of the picture to make it easier for the client to capture the desired picture and therefor to indirect give the best possible condition for the analysing program. That is why the buttons are on top of the picture. At the same time we kept the status bar in the view because it is important to see the internet connection since the process depend on it.



Our intent for this view was to give the user the best possible opportunity to review the image so we tried to make the view look like the previous one, camera mode. We figured that the users interest at this point is either to take a new picture if the recently taken one was unsatisfactory or to analyse it if the image were OK. There was a levelling between the size of the buttons since we wanted to keep them small to increase the total size of the image but at the same time we wanted to make it easy for the user to find the right button, hence the colour. We also added the progress bar once the analyse button is pressed to show the user that the application is working, since with bad reception the analyse could possibly take a small while.



In the view showing the result we wanted a large size of the text so it would be easy to read. Because the application most commonly is being used on dozens of bolts in a sequence we wanted to give the user the option to take a new picture.

**Extendable**

Even if the client asked for very basic functionality of the application we saw potential for extendibility in the future, which lead us to use specific logic and structure in the program. As a consequence some of the methods used might seem redundant or unnecessary at the moment but is constructed with another motive.

One of the biggest design decisions that were influenced partly by the extendibility was to put the analysing programme at an external platform. Not only is it easier to maintain and update but it is also gives the client the option to add new features without inconvenience for the client. All in all in decreases the coupling in the whole system and at the same time increases the cohesion since the application on the device integrates with the user and the web server handles the logic. One example that were worked out during the initial formation of the application were that in if the application becomes commercial successful is might be essential to store the result somehow, since different devices might measure the same wind power stations. To then install a database from the given structure wouldn’t be a problem at all, since the connection to the internet (as such storage requires) is already in place.