

## Project Plan: TensionCamApp

**Date:** 2013-04-21

### Team members

Max Dubois

Martin Falk Danauskis

Fredrik Johansson

Lisa Rythén Larsson

### Brief

TensionCamApp is an application developed for the company G-coder Systems AB with the purpose to simplify the use of a so-called TensionCam. A TensionCam is a camera device that measures how hard a certain bolt has been torqued. This is done by taking a picture of a dotted pattern on the washer of the bolt that distorts depending on the pressure exposed to the washer. The image is analyzed with an image processing algorithm, provided by the company, which generates a result (e.g. 72 kN). The product is targeting wind turbine market which means that the application needs to be able to function in darkness.

The TensionCamApp is designed to enable users (engineers) to use the camera in their Android device to take a picture of the dotted pattern, to analyze the image and then to get the result in form of the number of blobs on the bolt and the sum of their area in pixels. This is accomplished by sending the taken picture to a web-server that analyzes it and resends the result, which then is displayed to the user. G-coder Systems AB is currently developing a camera that is supposed to be fixed to the washer, and the application is supposed to be the basis of future work involving connecting the fixed camera to the Android device via USB-cable. Furthermore, there are many features that easily can be added, but at this point we aim towards getting the basics to function properly.

The SDK level has been set to 16 in order to comply with the Android device that the company primarily wishes to use, namely the Sony Xperia Z.

### Vision

An application where the user can take a picture and receive and view the result from analysis of the picture. The application must be well adapted to the environment in which it will be used and should be easy enough for the user to understand, requiring no user manual or previous experience.

### License

Licensed under the Apache License, Version 2.0 (the "License").

The Apache 2.0 license is a free and commonly known open source license. It is a flexible license which can be combined with other licenses, this makes it easy to work with. It also allows patents which might be of interest to the client in the future. Other than that it protects us from being held liable for errors and problem the application might cause ahead.

### Icon attribution

The TensionCam-logo is designed and owned by G-coder Systems AB.

The camera-symbol is designed by ourselves.

### Features

- A user should be able to take a picture
- A user should be able to review taken picture
- A user should be able to analyze taken picture
- A user should be able to view the result of the analysis

### Scrum

Our way of working is based upon the scrum concept, but has to some extent been adapted to our development team. The most significant adaption regards the scrum meetings. Because of our team size and the possibility to synchronize schedules, the daily scrum meetings are being held when needed, often more frequently than once a day.

Also, the assigned roles diverged from the roles specified in Scrum, even though consideration and inspiration from Scrum permeated throughout the project. Instead, we divided the roles according to software engineering roles: project manager, architect, analyst, designer, tester. The roles where not static, instead each member had different roles in different stages of the project.