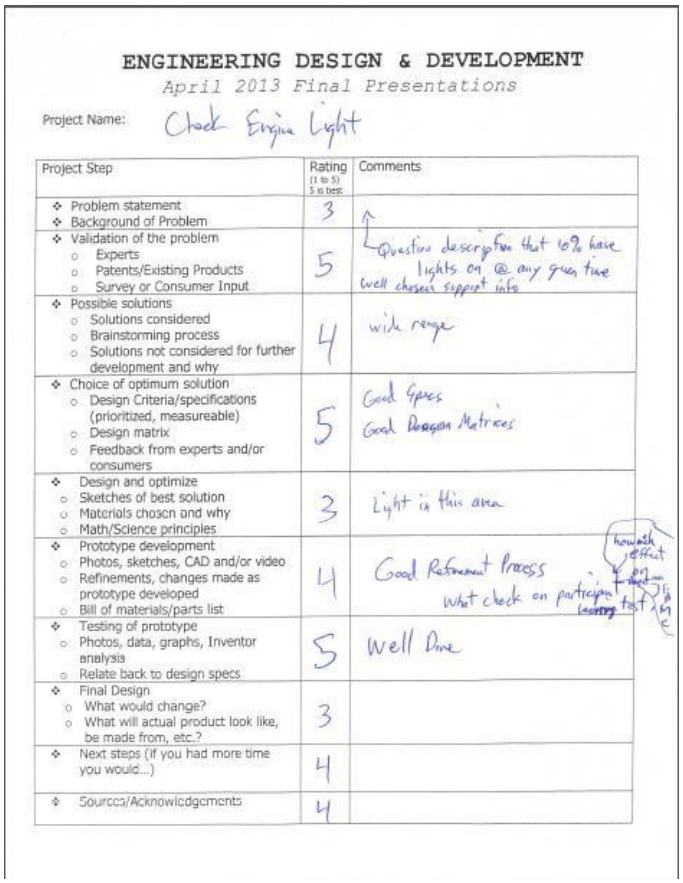
[redacted]

April 2013 Final Presentations

Project Name: check Engine light

Project Step	Rating (1 to 5) 5 is best	Comments
❖ Problem statement ❖ Background of Problem		clear and realistic scholarly Articles – yes!
❖ Validation of the problem o Experts o Patents/Existing Products o Survey or Consumer Input		
❖ Possible solutions o Solutions considered o Brainstorming process o Solutions not considered for further development and why		
❖ Choice of optimum solution o Design Criteria/specifications (prioritized, measureable) o Design matrix o Feedback from experts and/or consumers		Great job describing why you choose your final 5 ideas!
❖ Design and optimize o Sketches of best solution o Materials chosen and why o Math/Science principles		
❖ Prototype development o Photos, sketches, CAD and/or video o Refinements, changes made as prototype developed o Bill of materials/parts list		
❖ Testing of prototype o Photos, data, graphs, Inventor analysis o Relate back to design specs		
❖ Final Design o What would change? o What will actual product look like, be made from, etc.?		Good changes, logical thinking and great [redacted] flow of design
❖ Next steps (if you had more time you would...)		
❖ Sources/Acknowledgements		

G Energy

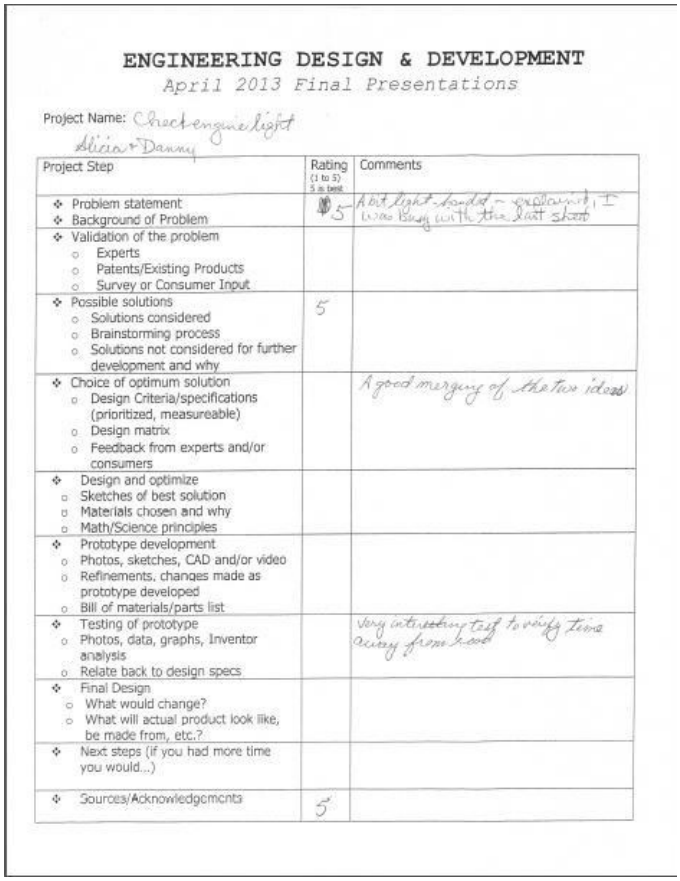


ENGINEERING DESIGN & DEVELOPMENT

April 2013 Final Presentations

Project Name: Check Engine Light

Project Step	Rating (1 to 5) 5 is best	Comments
❖ Problem statement ❖ Background of Problem	3	
❖ Validation of the problem ○ Experts ○ Patents/Existing Products ○ Survey or Consumer Input	5	Question description that 60% have lights on @ any given time well chosen support info
❖ Possible solutions ○ Solutions considered ○ Brainstorming process ○ Solutions not considered for further development and why	4	wide range
❖ Choice of optimum solution ○ Design Criteria/specifications (prioritized, measureable) ○ Design matrix ○ Feedback from experts and/or consumers	5	Good Specs Good Design Matrices
❖ Design and optimize ○ Sketches of best solution ○ Materials chosen and why ○ Math/Science principles	3	Light in this area
❖ Prototype development ○ Photos, sketches, CAD and/or video ○ Refinements, changes made as prototype developed ○ Bill of materials/parts list	4	Good Refinement Process what check on participa...
❖ Testing of prototype ○ Photos, data, graphs, Inventor analysis ○ Relate back to design specs	5	Well Done
❖ Final Design ○ What would change? ○ What will actual product look like, be made from, etc.?	3	
❖ Next steps (if you had more time you would...)	4	
❖ Sources/Acknowledgements	4	



ENGINEERING DESIGN & DEVELOPMENT

April 2013 Final Presentations

Project Name: Checkengine light

Alicia + Danny

Project Step	Rating (1 to 5) 5 is best	Comments
❖ Problem statement ❖ Background of Problem	5	A bit light-handed - explaining I was busy with the last step
❖ Validation of the problem ○ Experts ○ Patents/Existing Products ○ Survey or Consumer Input		
❖ Possible solutions ○ Solutions considered ○ Brainstorming process ○ Solutions not considered for further development and why	5	
❖ Choice of optimum solution ○ Design Criteria/specifications (prioritized, measureable) ○ Design matrix ○ Feedback from experts and/or consumers		A good merging of the two ideas
❖ Design and optimize ○ Sketches of best solution ○ Materials chosen and why ○ Math/Science principles		
❖ Prototype development ○ Photos, sketches, CAD and/or video ○ Refinements, changes made as prototype developed ○ Bill of materials/parts list		
❖ Testing of prototype ○ Photos, data, graphs, Inventor analysis ○ Relate back to design specs		Very interesting test to verify items away from hood
❖ Final Design ○ What would change? ○ What will actual product look like, be made from, etc.?		
❖ Next steps (if you had more time you would...)		
❖ Sources/Acknowledgements	5	

Element L: Presentation of designer's recommendations

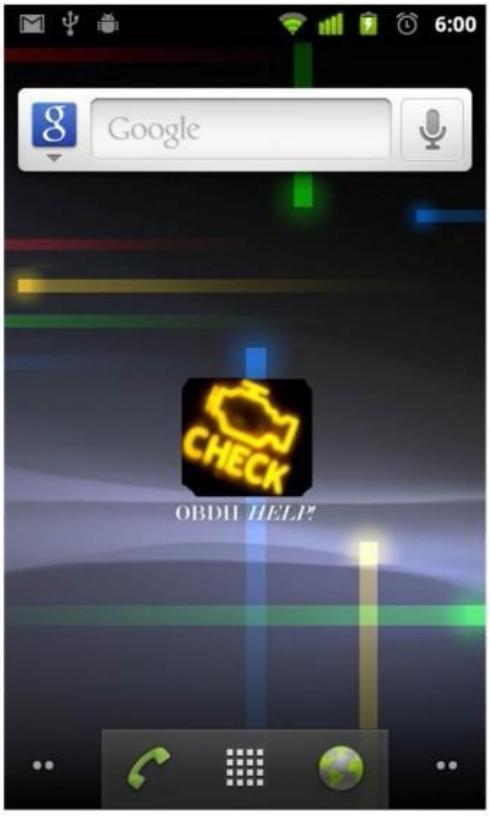
Element L: Presentation of designer's recommendations

If we had more time in our project, we would have created a fully functional Android Application. Once that was created, we would move into other platforms such as Apple, Windows, and other app stores. We would then be able to target everyone with a smart phone or Bluetooth capable device. Thus, it would fit our universal design specification of using the OBDII system (targeting all cars 1996 a newer) and app technology that has become a standard issue.

In conjunction with making the Application available to all Bluetooth Medias, we would make the program more visually appealing to users. Our goal would be to make it easier to read when a code is "thrown" or displayed by the OBDII system. This goal needs to be done because while people are driving, and a code is shown in the APP, they will have to take their eyes off the road. So, a very large text of "Critical" or "Non-Critical" would have to be displayed so the time the driver's eyes are actually off the road would be the same as our test or even less to keep the driver and other users as safe as possible. Additionally, we would like to add sound or an auditory aspect to our design to eliminate visual distractions as much as possible.

With the addition of the option to pay for mechanic's quotes and parts cost, we would have to have a website that holds all the car information and also communicates with the app directly. After we would have the networking completed, mechanics would have to come on board and install software on their shop computers that hold all the information of part costs and labor estimates for the app user.

Dream Design:



Recommendations from Experts and Consumers:

- Through two presentations in front of engineers and a consumer audience, we received recommendations for our design. We were asked to follow through with the implementation of the app to show our design and make it easier to implement into a vehicle model year 1996 and newer. Additionally we were advised to eliminate the yearly fee for the ability to get information from a mechanic, auto parts store, and other body shops; instead we would have users pay when a code actually displays and the users is concerned with how much the initial cost is going to be to take care of the problem.