# Research Proposal Form

**Student name:** Matthew Crosby

**Centre name:** Walsall College

**Tutor:** Amaninder Singh

**Unit:** 13

**Proposed title:** How AI affects cars now and how it will in the future?

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| **Section One: Title, objective, responsibilities** | |
| Title or working title of research project (in the form of a question, objective or hypothesis):  How AI affects cars now and how it will in the future?  Research project objectives (e.g. what is the question you want to answer? What do you want to learn how to do? What do you want to find out?):  The questions that I want to be able to answer are: How AI in cars has affected people currently? This will be about explaining what AI has currently done for us; How AI will affect us? This will include research about how AI has improved within cars and what it will be able to do in the future such as wide spread self-driving cars; How many people are expected to be using AI automobiles in the future? This will be based of research asking if people will be willing to allow AI to take over certain jobs whilst driving, this will give me an idea to who will use future AI cars. | |
| **Section Two: Reasons for choosing this research project** | |
| Reasons for choosing the project (e.g. links to other subjects you are studying, personal interest, future plans, knowledge/skills you want to improve, why the topic is important): The reason I chose this is because:   * It is currently a big topic within automotive companies and will more than likely take over our lives in the future in driving. * From advertisements and other sources such as car shows I have seen how AI is improving in cars overtime and what these manufacturers will be able to achieve. * My personal interest in cars and the technology that is behind some features within them, such as how self-driving cars could be viable on our roads in the future. * I also think that this topic is important as it is an upcoming topic that many cars will soon have, I can say this as all car manufactures now are creating there new cars with some kind of AI. | |
| **Section Three: Literature sources searched** | |
| Use of key literature sources to support your research question, objective or hypothesis:  On a Forbes article about AI in cars it explains about driverless cars, one thing it states is that driverless cars have been in a thought process for decades but only recently is being put into practice due to AI being more widely available and advanced. It states that cars should eventually be able to identify how other cars behave, the weather conditions, any road issues on the journey as well as many other factors that may contribute to the journey. This means that the AI will need to be able to understand human behaviour when driver, such as how they will act as with human drivers everyone has a different skill level so some people may make more mistakes when driving, this is one factor the AI will need to understand. The article also states that cars have many assisted features to reduce human error, such as a new Nissan car, in their advertisement which I saw on TV it demonstrated someone walking in front of the car and then the car analysing this and breaking. Another article on McKinsey also states about driverless cars as this is a big upcoming deal currently and will be more common around 2030. Another thing this article states is that AI won’t just affect how the vehicles will act and perform but also how they get built as sensors and devices will be connected to the Internet of Things. In 2016 Ai start us raised around $6 billion to fund them. With more time passing AI is getting more and more powerful as computer hardware is getting faster and able to perform more complex tasks. This article also proves that AI can be better than humans in certain ways as they are faster at doing thinking processes. If we think of all the information going through our brains as data to relate to the data that goes through an AI, we usually go through different ‘data’ before reaching the right process whilst an AI can calculate different routes, find the best one and be remembering what you have previously done to try and find a pattern to predict what will happen next. AI, such as Deep Blue, Watson and AlphaGo, has beat humans in different games such as chess, Jeopardy and Go.  The difference between these articles is that one states more about self-driving in automotive and the other states how AI will learn to do it.  Brian Rashid. 2018. How AI Pioneers Will Affect The Car Industry, And Why It's A Good Thing. [ONLINE] Available at: https://www.forbes.com/sites/brianrashid/2017/05/16/how-ai-pioneers-will-affect-the-car-industry-and-why-its-a-good-thing/#29d9ee7b57c2. [Accessed 18 October 2018].  McKinsey & Company. 2018. Building smarter cars with smarter factories: How AI will change the auto business | McKinsey . [ONLINE] Available at: https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/building-smarter-cars. [Accessed 18 October 2018]. | |
| **Section Four: Activities and timescales** | |
| Activities to be carried out during the research project (e.g. research,  development, analysis of ideas, writing, data collection, numerical analysis,  tutor meetings, production of final outcome, evaluation, writing the report) and  likely durations: | Research, and the collection of data via questionnaires. |
| Milestone one:  Target date (set by tutor):  Milestone two: Target date (set by tutor): | |
| **Section Four: Research approach and methodologies** | |
| Type of research approach and methodologies you are likely to use, and reasons for your choice:  What your areas of research will cover:  The areas of research I will use will be about how self-driving cars, the thought process of AI to reduce human error, how an AI can learn to do this and how long it will be before AI takes over the automotive industry. To carry out this research I can do primary and secondary such as questioners, reading articles, YouTube videos, books, and from the websites of vehicles to learn the features current vehicles have. | |
| **Comments and agreement from tutor** | |
| Comments (optional):    I confirm that the project is not work which has been or will be submitted for another qualification and is appropriate.  Agreed: .......................................... (Name) ..................................... (Date) ....................................... | |
| **Comments and agreement from project proposal checker (if applicable)** | |
| Comments (optional):    I confirm that the project is appropriate.  Agreed: ......................................... (Name) ......................................... (Date) .................................... | |

# Ethics Form

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| **Section One: Basic Details** |
| Project Title: How AI affects cars now and how it will in the future?  Student Name: Matthew Crosby  Student Number: 10170652  Programme: Unit 13 – Computer Research Project  School: Walsall College  Intended Research Start Date:  Intended Research End Date: |
| **Section Two: Project Summary** |
| Please select all research methods that you plan to use as part of your project:   * Interviews * Questionnaire * Observations * Use of personal records * Data analysis * Focus groups * Other (please Specify): |
| **Section Three: Participants** |
| Please answer the following questions, giving full details where necessary.  **Will your research involve human participants?**  Yes: No:  **Who are the participants? Tick all that apply:**  Children aged 12-16  Young people aged 17-18  Adults  **How will participants be recruited (identified and approached)?**  Approached and by identifying people in that field and asking them.  **Describe the processes you will use to inform participants about what you are doing:**  I will tell them what I am doing and what I plan to find out by doing his research.  **How will you obtain consent from participants? Will this be written? How will it be made clear to participants that they may withdraw consent to participate at any time?**  By asking people if they would fill in information they are giving consent. If someone doesn’t wish for their data to be included any more it can be removed.  **Studies involving questionnaires:**  Will participants be given the option of omitting questions they do not wish to answer?  Yes: No:  If no, please explain why below and ensure that you cover any ethical issues arising from this:  **Studies involving observation:**  Confirm whether participants will be asked for their informed consent to be observed.  Yes: No:  Will you debrief participants at the end of their participation (i.e. give them a brief explanation of the study)?  Yes: No:  Will participants be given information about the findings of your study? (This could be a brief summary of your findings in general.)  Yes: No: |
| **Section Four: Data storage and security** |
| Confirm that all personal data will be stored and processed in compliance with the Data Protection Act (1998):  Yes: No:  Who will have access to the data and personal information?  The people who it belongs to.  **During the research:**  Where will the data be stored?  Either physically in the form of notes or online on google forms if a questionnaire is being used.  Will mobile devices (such as USB storage and laptops be used)?  Yes: No:  If yes, please provide further details:  They will be used for online data collection such as google forms.  **After the research:**  Where will the data be stored?  Online on google drive where it is highly secure.  How long will the data and records be kept for and in what format?  The data will be kept for as long as the project is being carried out and will be in either word or on google forms.  Will data be kept for use by other researchers?  Yes: No: |
| **Section Five: Ethical Issues** |
| Are there any particular features of your proposed work which may raise ethical concerns? If so, please outline how you will deal with these:  It is important that you demonstrate your awareness of potential risks that may arise as a result of your research. Please consider/address all issues that may apply. Ethical concerns may include, but are not limited to the following:   * Informed consent. * Potentially vulnerable participants. * Sensitive topics. * Risks to participants and/or researchers. * Confidentiality/anonymity. * Disclosures/limits to confidentiality. * Data storage and security, both during and after the research (including transfer, sharing, encryption, protection). * Reporting. * Dissemination and use of your findings. |