Team Name

School / Organisation affiliation

Project Overview

What did you need to do?
What is the problem?

What are your initial thoughts to solving this problem?

Can you break down the problem into smaller problems (decomposition)?
What are the important things to address? (abstraction)
What constitutes a ‘good’ solution? (criteria for evaluation)
Is there anything you need to learn? (knowledge and skills software / hardware / other?)
Do you have all the resources you need? (project planning)
How much time do you think you need to finish?

What roles do you need on your team?

Who do you think would fill these roles well?
Can the roles crossover? (teamwork / collaboration)

What platform(s) are you using?

Why that platform?
What do we have to play with?
What hardware do you think you'll need?
Software?
Other?

1st Iteration Requirements

What are your initial solutions
(software/ construction/hardware etc)
to your initial problems?

Do a test run.

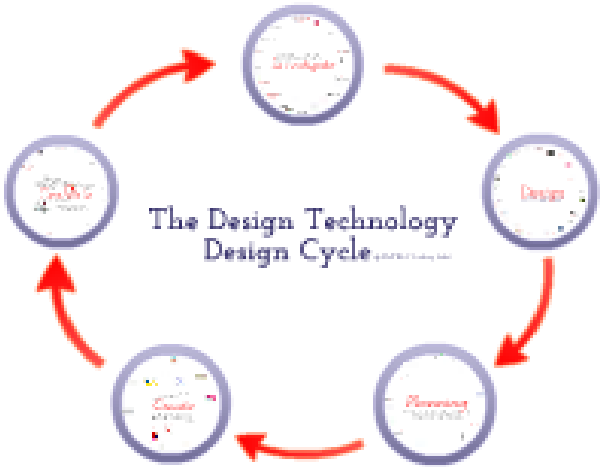
1st iteration / 1st Design cycle

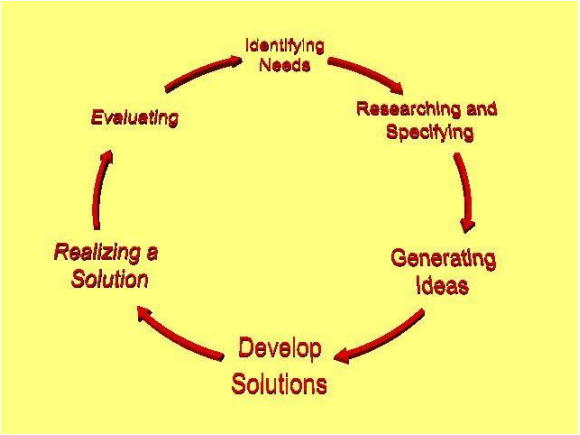
Did your solution work?
What worked well?
What didn’t?

How does it compare to a ‘good’ solution?

Make sure you document other significant iterations (add further slides as necessary)

Design Cycle





Go back and do more iterations

The Solution

Construction

How are the robot parts arranged and why?

Where are the motors (if any)?

What do they do?

Where are the sensors (if any)?

What do they do?

How do you keep it from breaking?

Is it safe to use around people?

Software

What software did you use and why?
Include examples of your

- Pseudo code
- Flowcharts
- Snippets of annotated source code?

Can you show how the program evolved?

Electronics (if applicable)

What modules did you use and why?
(eg, motor control, sensors, microcontroller)
Custom electronics?
Did you make your own circuits?

Community outreach - Show it off! :)

Have you demonstrated your project

- to your class?
- to your teachers?
- to your school?
- to your family?
- to your community?
- to your supporters?

What parts of the project were the hardest?

What challenges did the project face?
The team? The design?
The implementation?
Choosing a colour scheme?
How did you go about fixing them?
How would you improve the whole process?
What's next?

The innovative parts of the robot

Why is your robot really cool?

The Credits

Who did what?

Include everyone that played an important role in your team’s success

ACARA Checklist

ACARA Code	Section	Completed
• Investigate how forces or electrical energy can control movement, sound or light in a designed product of system (ACTDEK020) • Analyse how motion, force and energy are used to manipulate and control electromechanical systems when designing simple, engineered solutions (ACTDEK031) • Investigate and make judgments on how the characteristics and properties of materials are combined with force, motion and energy to create engineered solutions (ACTDEK043)	RCJA 1 RCJA 6 RCJA 8 RCJA 10	

ACARA Checklist

ACARA Code	Section	Completed
• Investigate characteristics and properties of a range of materials, systems, components, tools and equipment and evaluate the impact of their use(ACTDEK023) • Analyse ways to produce designed solutions through selecting and combining characteristics and properties of materials, systems, components, tools and equipment (ACTDEK034) • Investigate and make judgments on how the characteristics and properties of materials, systems, components, tools and equipment can be combined to create designed solutions (ACTDEK046) • Investigate and make judgments, within a range of technologies specialisations, on how technologies can be combined to create designed solutions (ACTDEK047)	RCJA 3	

ACARA Checklist

ACARA Code	Section	Completed
• Critique needs or opportunities for designing, and investigate materials, components, tools, equipment and processes to achieve intended designed solutions (ACTDEP024) • Critique needs or opportunities for designing and investigate, analyse and select from a range of materials, components, tools, equipment and processes to develop design ideas (ACTDEP035) • Critique needs or opportunities to develop design briefs and investigate and select an increasingly sophisticated range of materials, systems, components, tools and equipment to develop design ideas (ACTDEP048)	RCJA 1 RCJA 8 RCJA 10	

ACARA Checklist

ACARA Code	Section	Completed
• Generate, develop, communicate and document design ideas and processes for audiences using appropriate technical terms and graphical representation techniques (ACTDEP025) • Generate, develop, test and communicate design ideas, plans and processes for various audiences using appropriate technical terms and technologies including graphical representation techniques (ACTDEP036) • Apply design thinking, creativity, innovation and enterprise skills to develop, modify and communicate design ideas of increasing sophistication (ACTDEP049)	RCJA 4 RCJA 5 RCJA 8	

ACARA Checklist

ACARA Code	Section	Completed
• Apply safe procedures when using a variety of materials, components, tools, equipment and techniques to make designed solutions (ACTDEP026) • Effectively and safely use a broad range of materials, components, tools, equipment and techniques to make designed solutions (ACTDEP037) • Work flexibly to safely test, select, justify and use appropriate technologies and processes to make designed solutions (ACTDEP050)	RCJA 5 RCJA 6 RCJA 8	

ACARA Checklist

ACARA Code	Section	Completed
• Negotiate criteria for success that include consideration of sustainability to evaluate design ideas, processes and solutions (ACTDEP027) • Independently develop criteria for success to assess design ideas, processes and solutions and their sustainability (ACTDEP038) • Evaluate design ideas, processes and solutions against comprehensive criteria for success recognising the need for sustainability (ACTDEP051)	RCJA 5	

ACARA Checklist

ACARA Code	Section	Completed
• Develop project plans that include consideration of resources when making designed solutions individually and collaboratively (ACTDEP028) • Use project management processes when working individually and collaboratively to coordinate production of designed solutions (ACTDEP039) • Develop project plans using digital technologies to plan and manage projects individually and collaboratively taking into consideration time, cost, risk and production processes (ACTDEP052)	RCJA 2 RCJA 9	

ACARA Checklist

ACARA Code	Section	Completed
• Investigate the main components of common digital systems, their basic functions and interactions, and how such digital systems may connect together to form networks to transmit data (ACTDIK014) • Investigate how data are transmitted and secured in wired, wireless and mobile networks, and how the specifications of hardware components impact on network activities (ACTDIK023) • Investigate the role of hardware and software in managing, controlling and securing the movement of and access to data in networked digital systems (ACTDIK034)	RCJA 3 RCJA 4 RCJA 7	

ACARA Checklist

ACARA Code	Section	Completed
• Define problems in terms of data and functional requirements, and identify features similar to previously solved problems (ACTDIP017) • Define and decompose real-world problems taking into account functional requirements and economic, environmental, social, technical and usability constraints (ACTDIP027) • Precisely define and decompose real-world problems, taking into account functional and non-functional requirements and including interviewing stakeholders to identify needs (ACTDIP038)	RCJA 1 RCJA 3	

ACARA Checklist

ACARA Code	Section	Completed
• Design, modify and follow simple algorithms represented diagrammatically and in English involving sequences of steps, branching, and iteration (repetition) (ACTDIP019) • Design algorithms represented diagrammatically and in English, and trace algorithms to predict output for a given input and to identify errors (ACTDIP029) • Design algorithms represented diagrammatically and in structured English and validate algorithms and programs through tracing and test cases (ACTDIP040)	RCJA 4 RCJA 5 RCJA 7	

ACARA Checklist

ACARA Code	Section	Completed
• Implement digital solutions as simple visual programs involving branching, iteration (repetition), and user input (ACTDIP020) • Implement and modify programs with user interfaces involving branching, iteration and functions in a general-purpose programming language (ACTDIP030) • Implement modular programs, applying selected algorithms and data structures including using an object-oriented programming language (ACTDIP041)	RCJA 5 RCJA 6 RJCA 7	

ACARA Checklist

ACARA Code	Section	Completed
• Explain how developed solutions and existing information systems are sustainable and meet local community needs, considering opportunities and consequences for future applications (ACTDIP021) • Evaluate how well developed solutions and existing information systems meet needs, are innovative and take account of future risks and sustainability (ACTDIP031) • Critically evaluate how well developed solutions and existing information systems and policies take account of future risks and sustainability and provide opportunities for innovation and enterprise (ACTDIP042)	RCJA 5 RCJA 7 RCJA 10	

ACARA Checklist

ACARA Code	Section	Completed
• Manage the creation and communication of ideas and information including online collaborative projects, applying agreed ethical, social and technical protocols (ACTDIP022) • Plan and manage projects, including tasks, time and other resources required, considering safety and sustainability (ACTDIP033) • Plan and manage projects using an iterative and collaborative approach, identifying risks and considering safety and sustainability (ACTDIP044)	RCJA 2 RCJA 9	