# What sort of information solution can I make?

Read the tech news, talk to people around you, and look for areas in which you can either solve a problem or seize an opportunity that exists in real life. Consider your available timeframe when thinking about the scope/size of your project. Realistically consider your skills and what may be required during the development stage. Some sample ideas are presented below.

# Inspiration

Some of these are ideas, while others are existing products already. Some may be achievable while others are too large to develop within the timeframe. Use these ideas to kickstart your imagination and idea search.

* Something like the Fire ready app (Victoria), which maps & lists nearby fires, trucks attending, status. Draws in Google map data, accesses a database offline situations in real-time. (existing example)
* Women-only taxi service booking site eg abc news article Database, map (existing example)
* Palm oil app link Identify products which are made with palm oil. Database with search (existing example)
* Price comparison app. Scan and compare prices, or compare gas/elect/water services. Accesses a database, with search function based on your selected features. (existing example)
* Barcode nutritional info of products. Requires scanning ability, access database. (existing example)
* Landscaping app (for outdoor gardeners, painters, builders) that pulls weather data from the BOM Bureau of Meterology's RSS feed into a calendar, to aid decision about which days to schedule outdoor work.
* Organisational needs in school, students/teachers/admin eg Homework scheduling, meetings...
* Track driving hours for P platers - start/stop times, map, weather.  
  Would require a database, map data, optionally access the BOM RSS feed.
* Sports club (events, reminders, fees, score tables etc). Database with search
* Plant nursery app - enter type of plant, is it best in sun/shade/both... other care instructions etc to help people new to gardening to get the best from their plants. Database with search
* Cafe which wants to take online orders
* Data analysis/ visualisation of large amounts of aggregate data. Database, PHP to create visual graphs etc
* Booking system for borrowing multimedia equipment
* Someone who runs a home business, shoves receipts into a drawer, then has to process them for tax
* A roster for navy cadets
* Games For Change <https://form.jotform.com/60098143562960>  
  Social impact game: All games must fall within the broad confines of being a game for change by addressing current social issues and aiming to produce a sustainable and positive impact on society and/or individuals
* A Family Day Care home business that needs to track the hours and charge for each child
* Basketball competition stats recorder- to output a ladder in a format to be uploaded into the website
* Something to help Student Council organise events
* Small business customers or sales
* Personal/Family Inventory e.g. hobbies, clothing (even theatre costumes), household possessions (eg for insurance), family share portfolio, heirlooms (items that have belonged to ancestors)
* Inventory of theatre costumes
* Musical instrument borrowing system
* SAC due dates management
* Valedictory Dinner Years 7-12 photos

**Needs & solutions addressed by students in previous years:**

1. Business Inventory (plant nursery, used car yard, craft supplies)
2. Farm machinery maintenance (or school's computer hardware, Media equipment, art tools, sports equip...)
3. Sports teams or athletes and their records at events (your own, the school teams, gymnastics club, etc)
4. Golf handicap system
5. Crop planting records
6. Cafe ordering system (for food, drinks... customisable meals?)
7. Invoice calculator for a small business
8. Appointments/bookings system for a disorganised Veterinarian. Could also maintain/include a customer database.
9. Hotel room booking system
10. Booking for time-based services: indoor cricket pitch, laser tag, etc.
11. Multipurpose attendance checker - for community sport groups, churches, youth events, etc with customisable fields. With admin & user login potentially.
12. App for students attending private music lessons: teachers can set homework, student can tick off tasks...

# Format ...

The format could be a web service, website, app, game ... can access a database, xml data stream, other data. Consider opportunities and needs in regional centres as well as the city - communication needs, calculation, solutions to overcome distance between organisations, people, customers...

Clubs, businesses organisations - find contacts in a local organisation.

# Getting started

Identify a **need or opportunity** that needs a digital system solution.

If you identify a need: connect with local organisations or businesses, whom you can interview or gather data from later. (Opportunities are harder to collect data for.)

# Requirements to include in your solution

Must include the following requirements:

* + Use a complex algorithm. This could be a sorting algorithm, search function, use of associative or multi­dimensional arrays, extra functionality in JavaScript or something else.
  + Validate data when inputting it (in a form)
  + Store data (in a csv file, XML file or database)

*As this can be considered a prototype, can store in data csv, with plan to later build a database.*

* + Consider security and accessibility of files
  + Add detailed internal documentation (comments), use coding conventions, etc.

***Questions to ask***

Write questions to ask your client, organise them under these sub-headings:

**Questions about data flow**

* into and out of the system, what needs to be stored, what data should be kept securely?
* does some data need to be stored long term (eg Purchase records) or can some be deleted regularly? This will help to make the Use Case diagram
* Can the data store be located on their device, or a central server, or online?

**Users**

* Who will have access to the system? Can they edit data, or just view it?
* Should there be different user groups?
* What tasks does each user/user group do? This will help you draw a Context / Data flow diagram

**Features**

* things the solution should be able to do (search, sort, display, store…) maybe ask the person to rank the features into Most Important to Least Important. This will define the features you will build into your project, and help group the rest into a ‘Stage 2’ that could be added in the future. this will help to write up requirements, and also the Context Diagrams

**Design**

* any questions about the layout, design, colour scheme, branding, do they have a style guide?
* also who will be using it and what level of computer skills do they have, do they speak English easily? Consider how that might impact your design or layout, or labels and wording
* consider the platform / tech – will users be accessing your solution on a phone, tablet, desktop? All of the above? A specific browser or platform? Using a keyboard and mouse, or fingers to input data?

# Software Development Unit 3 SAT Project Proposal

Name: …………………………………………………………………………………………… Due: …..…..**/……..../2020**

|  |
| --- |
| **THE PROJECT**  You will construct the framework (SRS) for the creation of a software solution that meets a need or opportunity you determine. This is the first part of a project, with the second part undertaken in Unit 4, Outcome 1.   1. **Identify** a real-world need or opportunity 2. **Analyse** a real-world need or opportunity you identified and create an SRS document (using a template we provide) containing    1. solution requirements (Functional and Non-Functional)    2. constraints    3. scope 3. Generate two or three different **design ideas** for creating your solution (we will study a variety of design and systems thinking skills). Your design ideas must include annotations to indicate key functions and layouts 4. Develop and apply **evaluation criteria** to select the preferred design idea. 5. Create a **complete design** for this preferred design idea. This will include the functionality and user interface of the solution. The evaluation criteria will be used in Unit 4 to evaluate the quality of this solution. 6. Prepare a **project plan**, taking into account all stages of the problem-solving methodology covered in this outcome and in Unit 4, Outcome 1 and determine the milestones of your project. |

Title of your project:

Brief description of the project:

Who you will contact to gather information for your project analysis? If your contact is from an organisation, please include **name of organisation, contact’s job title**.

Which of the following do you think you might need to incorporate into your solution? Please **DESCRIBE**

* a set of **raw data** (ie a list of data you would need to store)

* What data needs to be **stored** (versus just **calculated**/used and disposed of?)

* when you would need to **edit the data** in this list? And which user group?
* when you would need to **add new data** to this list? And which user group?
* when would you need to **delete** data from this list? And which user group?
* Are there any **extra sets of data** (other than from the contact) is needed?
* how you would **search** through your data – what information would your users want?
* how you would **sort** your data, based on what criteria/data?
* What **output** is produced– printed or on screen eg a ticket, order form, or a sales summary, list…