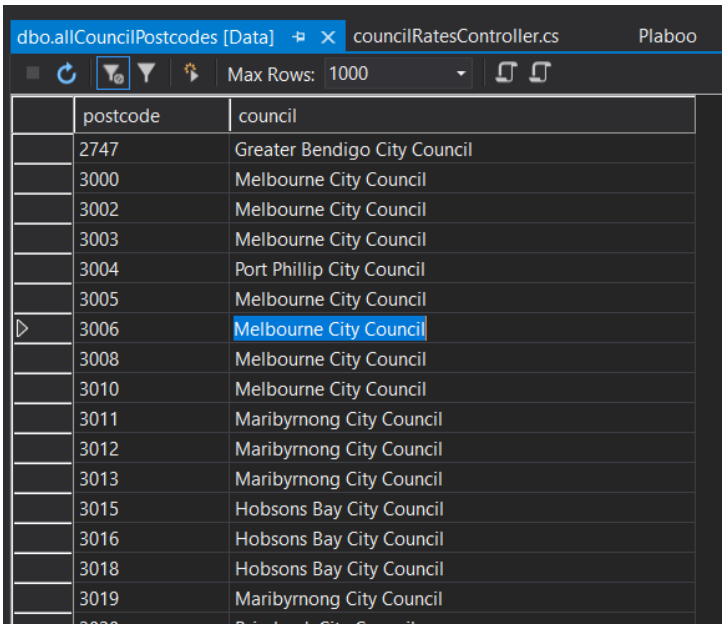
Database Details

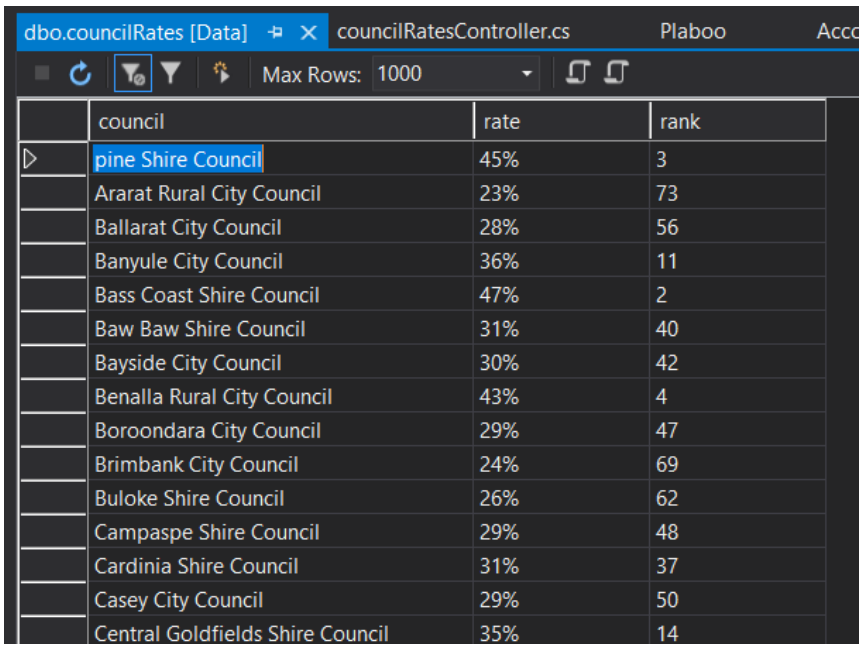
We have used Microsoft SQL Server Studio for storing our data. This is a Relational database management system. Mainly we created 3 tables in our database for this iteration:

1. **allCouncilPostcode:** This table has all the properties needed to store the details of the postcodes of all councils in Melbourne. It has a one-to-many relationship between the council and the postcodes. This table has been used to map the relationship of the postcode entered by the user and the council to which it belongs. 'Postcode' here is the primary key. This table has more than 800 entries. The structure can be found below:



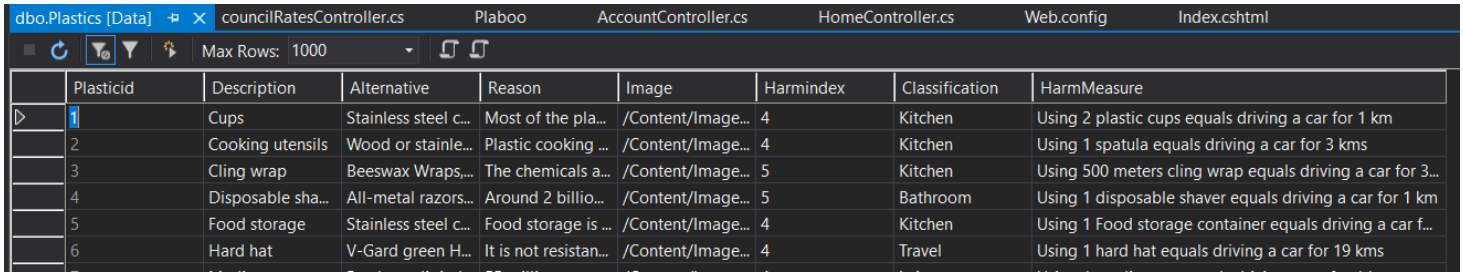
postcode	council
2747	Greater Bendigo City Council
3000	Melbourne City Council
3002	Melbourne City Council
3003	Melbourne City Council
3004	Port Phillip City Council
3005	Melbourne City Council
3006	Melbourne City Council
3008	Melbourne City Council
3010	Melbourne City Council
3011	Maribyrnong City Council
3012	Maribyrnong City Council
3013	Maribyrnong City Council
3015	Hobsons Bay City Council
3016	Hobsons Bay City Council
3018	Hobsons Bay City Council
3019	Maribyrnong City Council

2. **councilRate:** This table has the properties that store the ranking, the recycling rate and the name of the council. This table has been used to show the ranking and the recycling rate of the council to which the user postcode belongs. This has 79 entries (number of councils in Melbourne). The structure can be found below:



council	rate	rank
pine Shire Council	45%	3
Ararat Rural City Council	23%	73
Ballarat City Council	28%	56
Banyule City Council	36%	11
Bass Coast Shire Council	47%	2
Baw Baw Shire Council	31%	40
Bayside City Council	30%	42
Benalla Rural City Council	43%	4
Boroondara City Council	29%	47
Brimbank City Council	24%	69
Buloke Shire Council	26%	62
Campaspe Shire Council	29%	48
Cardinia Shire Council	31%	37
Casey City Council	29%	50
Central Goldfields Shire Council	35%	14

3. **Plastic:** This table stores the properties of all the plastic items. This table has been mainly used for our 'Alternatives' feature where we are showing the alternatives to the plastic items adolescents use in their daily life. The 'HarmMeasure' has been developed my mathematical model in python. The structure is as follows:



dbo.Plastics [Data] | councilRatesController.cs | Plaboo | AccountController.cs | HomeController.cs | Web.config | Index.cshtml

Max Rows: 1000

Plasticid	Description	Alternative	Reason	Image	Harmindex	Classification	HarmMeasure
1	Cups	Stainless steel c...	Most of the pla...	/Content/Image...	4	Kitchen	Using 2 plastic cups equals driving a car for 1 km
2	Cooking utensils	Wood or stainle...	Plastic cooking ...	/Content/Image...	4	Kitchen	Using 1 spatula equals driving a car for 3 kms
3	Cling wrap	Beeswax Wraps,...	The chemicals a...	/Content/Image...	5	Kitchen	Using 500 meters cling wrap equals driving a car for 3...
4	Disposable sha...	All-metal razors...	Around 2 billio...	/Content/Image...	5	Bathroom	Using 1 disposable shaver equals driving a car for 1 km
5	Food storage	Stainless steel c...	Food storage is ...	/Content/Image...	4	Kitchen	Using 1 Food storage container equals driving a car f...
6	Hard hat	V-Gard green H...	It is not resistan...	/Content/Image...	4	Travel	Using 1 hard hat equals driving a car for 19 kms

The data for the above tables have been collected from different open datasets available on the government websites. This data was first **cleaned, wrangled and transformed** and then imported in our database. The open dataset details can be found below:

Open Data Details – Iteration 2

Index	Names	Physical access used	Frequency of source updates	Frequency of ITERATION System updates	Granularity	Copyright details	Implementation	Comments	Links
1	Victorian Local Government Annual Waste Services Workbook 2017-18	xlsx	Dynamic, as each year data publisher update the dataset	Yearly	diversion rate local city council	Sustainability Victoria License:Creative Commons Attribution 4.0 International	Display the diversion rate	combine with the post code	https://discover.data.vic.gov.au/dataset/victorian-local-government-waste-services-report-workbook-2017-18
2	Postcode locality reference	xlsx	Dynamic, as each year data publisher update the dataset	Yearly	city council and suburb post code	Department of Health and Human Services	let usr enter postcode to find the corresponding city council	as reference for diversion rate	https://www2.health.vic.gov.au/about/publications/researchandreports/postcode-locality-reference
3	country recycle rate	csv	Dynamic, as each year data publisher update the dataset	Yearly	country, recycle rate	worldbank.org	For global recycle visualization	only select the recycle data in this case	http://datatopics.worldbank.org/what-a-waste/
4	national-waste-database-2018	xlsx	Dynamic, as each year data publisher update the dataset	Yearly	state, waste manangement	Department of the Environment and Energy	To visualize the recycling situation in state scale. Planning for two visualition, one is for stete recycling tonnes and the other is for plastic recycling.	need to do further analysis	https://www.environment.gov.au/protection/waste-resource-recovery/national-waste-reports/national-waste-report-2018