# Mission 2

## Scenario:

You continue to work for Turners Car Auctions as an IT Professional.  You are continuing with the project to re-design the motor vehicle insurance purchasing experience (here is some information about motor vehicle insurance [<https://www.turners.co.nz/Finance/motor-vehicle-insurance/>]). You will work on this in a team.



This week UX Designers will apply design thinking process to a solution, and may require some help from Advanced Software Developers in an ideation session. You are also going to perform your profession-specific tasks.

## Your Mission for this week, should you accept it, is to perform the following tasks.

1. Schedule and perform ideation session in a larger team you are assigned to. The ideation session needs to take place AFTER UX Designers complete their problem statements. The purpose is to come up with some possible solution ideas, and possible narrow down to a most-likely solution idea for the problem statement defined. The following resources may help:
   * MANDATORY Ideate Stage Overview <https://www.youtube.com/watch?v=zbLxs6te5to> (5 mins)
   * RECOMMENDED Other Ideation approaches <https://www.interaction-design.org/literature/topics/ideation> (15 mins)
2. Perform specific tasks for your profession in the Appendices. You do not need to complete the tasks for all pathways. Only complete the tasks in the one Appendix relevant to your pathway.
3. At the Show and Tell next week, (as a team) talk everyone through the profession-specific tasks you completed. Between the group of you, you have **15 minutes** in total to talk about all items. You can use PowerPoint slides, Sway or Prezi to help with your presentation
4. Upload your work (presentation slides, documents or other work files) to <https://teams.microsoft.com/_#/school/files/General?threadId=19%3Ad0f40f7ab07f4048afea3f6cf7174d14%40thread.tacv2&ctx=channel&context=Mission%25202&rootfolder=%252Fsites%252F2021MayL5TechCareerAccelerator%252FShared%2520Documents%252FGeneral%252FSubmissions%252FMission%25202>

## Appendix A – Tasks for UX Designers

If you are in the UX Designer pathway, complete the following tasks as part of the Mission:

1. Refine your interviewing questions if needed.
2. As part of the design thinking process, perform interview with the stakeholders identified (they will be role-played by your instructor). The following resources may help:
   * MANDATORY A great list of tips for user interviews and throughout the steps of creating a design <https://www.skillshare.com/classes/Design-Thinking-How-to-Use-Creative-Problem-Solving-for-Better-Design/1170532766> (1 hour)
3. After you interviewed, unpack you interviews and create personas and related empathy maps, and as-is journey maps for existing process. The following resources may help:

* MANDATORY Use of Persona: <https://www.skillshare.com/classes/Personas-Improve-Your-UX-with-Human-Centered-Design/1803704054> (30 mins)
* MANDATORY Using empathy maps: <https://www.nngroup.com/articles/empathy-mapping/> (10 mins)
* MANDATORY Using journey maps: <https://www.skillshare.com/classes/Creating-Customer-Journey-Maps-from-Scratch/238293019> (30 mins)

1. Once you created the maps, define the problem by creating a Problem Statement. The following resource may help:
   * MANDATORY Define the Problem <https://www.interaction-design.org/literature/article/stage-2-in-the-design-thinking-process-define-the-problem-and-interpret-the-results> (15 mins)
2. Facilitate an ideation session with Developers to come up with potential solutions. You should limit the session to less than 2 hours. Narrow down to one final solution in the session if possible. You can still refine the final idea. The following resources may help:

* MANDATORY Ideate Stage Overview <https://www.youtube.com/watch?v=zbLxs6te5to> (5 mins)
* MANDATORY Facilitating Brainstorming sessions <https://www.cornerstonedynamics.com/group-brainstorming-techniques-types-of-brainstorming-that-work/> (10 mins)
* RECOMMENDED Other Ideation approaches <https://www.interaction-design.org/literature/topics/ideation> (15 mins)
* MANDATORY Design Sprint <https://www.gv.com/sprint/> (15 mins)

1. Once you have a solution, create user flow and information architecture for this to-be user experience. The following resources may help:

* MANDATORY Creating a User Flow Chart (the context) <https://creately.com/blog/diagrams/user-flow-diagram/> (10 mins)
* MANDATORY Creating a User Flow Chart (the content) <https://careerfoundry.com/en/blog/ux-design/how-to-create-a-user-flow/> (10 mins)
* OPTIONAL Different types of User Flow Chart <https://blog.prototypr.io/ux-flows-and-why-theyre-so-confusing-26670b9089d4> (10 mins)
* MANDATORY Information Architecture <https://www.youtube.com/watch?v=KcRcGb-JGLs> (5 mins)
* RECOMMENDED More Information Architecture Design Patterns <https://medium.com/@adrianng_55562/information-architecture-patterns-501a66f7d4b0> (5 mins)

1. When you are presenting, make sure you talk through the design rationale, not just presenting a design. The following resources may help if you need additional readings about design thinking.

* OPTIONAL Human Needs, Human-Centred Design, and Design Thinking <https://medium.com/@anggitaprameswarap/design-thinking-human-centered-human-needs-and-design-knowledge-6c2f7749c44c> (20 mins)
* OPTIONAL The Unified theory of human-centred design <https://uxdesign.cc/the-unified-theory-of-human-centred-design-and-its-success-the-wheel-of-innovation-dbafd5ed12b4> (20 mins)
* OPTIONAL Stamford Design Thinking process overview <https://www.youtube.com/watch?v=lJetqXSlNzI> (5 mins)
* OPTIONAL Stamford professor explains Design Thinking <https://www.youtube.com/watch?v=U499U4TcyY8> (1 hour)
* d.school Design Thinking Bootleg Deck <https://static1.squarespace.com/static/57c6b79629687fde090a0fdd/t/5b19b2f2aa4a99e99b26b6bb/1528410876119/dschool_bootleg_deck_2018_final_sm+%282%29.pdf>
* OPTIONAL Design Thinking & Doing <https://www.youtube.com/watch?v=bpVzgW8TUQ0> (5 mins)
* OPTIONAL Design Thinking Mindsets   
  <http://www.designkit.org/mindsets> (15 mins)

## Appendix B – Tasks for Advanced Software Developers

If you are in the Advanced Software Developer pathway, complete the following tasks as part of the Mission:

1. The digital team would like to prototype a solution that allows a user to upload the picture of a car, and then find a similar car in their stock to recommend to customer. Build an application (either runs on your laptop or on the cloud) that can recognise motor vehicles (even better if it recognises certain types of vehicles, e.g. sedan vs hatchback) using a cloud-based AI service such as Amazon, IBM Cloud, or Microsoft Azure. You can copy code from tutorials you find online, but make sure you read through the code so that you understand the code. The following resources may help:

* MANDATORY Overview of AWS AI Services <https://www.youtube.com/watch?v=ybcwYWMlAZo> (30 mins)
* CHOOSE1 Detect, Compare, Analyse Faces using Amazon Rekognition <https://aws.amazon.com/getting-started/tutorials/detect-analyze-compare-faces-rekognition/?trk=gs_card> (1 hour)
  + AWS Tutorial using Node.js <https://www.youtube.com/watch?v=GtknPjdlOfg>
  + AWS Tutorial using Python <https://www.youtube.com/watch?v=f4NIuLb2QkI>
  + AWS Rekognition documentation and API reference <https://docs.aws.amazon.com/rekognition/latest/dg/getting-started.html>
* CHOOSE1 If you want to use IBM Cloud – here are the tutorials and API for Watson Visual Recognition: <https://cloud.ibm.com/docs/services/visual-recognition?topic=visual-recognition-getting-started-tutorial#tutorial-de-introdu-o>
* CHOOSE1 If you want to use Azure – Documentation for Computer Vision services on Azure: <https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/>

1. Build a simple unit test for your image recognition application. E.g. if you feed your application with an image of a truck, then your test will assert that the application’s output include the word “truck”. You can pick a unit test tool for the programming language you use. The following resources may help:
   * MANDATORY Unit testing concepts <https://www.guru99.com/unit-testing-guide.html>
   * CHOOSE1 Unit testing in .NET <https://docs.microsoft.com/en-us/visualstudio/test/unit-test-basics?view=vs-2019>
   * CHOOSE1 Unit testing with Python: <https://docs.python.org/3/library/unittest.html>
   * CHOOSE1 Unit testing with node.js: <https://jestjs.io/> or <https://mochajs.org>

## Appendix C – Tasks for Business Analysts

If you are in the Business Analyst pathway, complete the following tasks as part of the Mission:

1. Refine your interviewing questions if needed.
2. As part of the design thinking process, perform interview with the stakeholders identified (they will be role-played by your instructor). The following resources may help:
   * MANDATORY A great list of tips for user interviews and throughout the steps of creating a design <https://www.skillshare.com/classes/Design-Thinking-How-to-Use-Creative-Problem-Solving-for-Better-Design/1170532766> (1 hour)
3. After you interviewed, unpack you interviews and create personas and related empathy maps. The following resources may help:

* MANDATORY Use of Persona: <https://www.skillshare.com/classes/Personas-Improve-Your-UX-with-Human-Centered-Design/1803704054> (30 mins)
* MANDATORY Using empathy maps: <https://www.nngroup.com/articles/empathy-mapping/> (10 mins)

1. Draw a Business Process Model model using BPMN that represents the as-is process flow when a user buys insurance. Your BPMN model will need to cover staff, customer, and the systems using swimlanes. The following resources may help:
   * MANDATORY Business Process Modelling Overview <https://www.youtube.com/watch?v=sscOXEHVE6A> (7 mins)
   * CHOOSE 1 An online business process modelling tool <https://www.bpmn.io>
   * CHOOSE 1 A desktop business process modelling tool <https://www.bonitasoft.com>
   * CHOOSE 1 A generic desktop modelling tool which can draw flowcharts and UML diagrams <https://www.visual-paradigm.com/editions/community/>
2. Once you created the BPMN, define the problem by creating a Problem Statement. The following resource may help:
   * MANDATORY Define the Problem [https://www.interaction-design.org/literature/article/stage-2-in-the-design-thinking-process-define-the-problem-and-interpret-the-results](https://www.interaction-design.org/literature/article/stage-2-in-the-design-thinking-process-define-the-problem-and-interpret-the-results%20(15) (15 mins)
3. Join or facilitate an ideation session with Developers and UX Designers to come up with potential solutions. You should limit the session to less than 2 hours. Narrow down to one final solution in the session if possible. You can still refine the final idea. The following resources may help:

* MANDATORY Ideate Stage Overview <https://www.youtube.com/watch?v=zbLxs6te5to> (5 mins)
* MANDATORY Facilitating Brainstorming sessions <https://www.skillshare.com/classes/Become-a-Brainstorming-Facilitator/1444725120> (1 hour)
* RECOMMENDED Other Ideation approaches <https://www.interaction-design.org/literature/topics/ideation> (15 mins)
* MANDATORY Design Sprint <https://www.gv.com/sprint/> (15 mins)

1. Once you have a solution idea, create Business Process Model (BPMN) with swimlanes to represent this to-be process when the solution is in place. The following resources may help:
   * MANDATORY Business Process Modelling Overview <https://www.youtube.com/watch?v=sscOXEHVE6A> (7 mins)
   * CHOOSE 1 An online business process modelling tool <https://www.bpmn.io>
   * CHOOSE 1 A desktop business process modelling tool <https://www.bonitasoft.com>
   * CHOOSE 1 A generic desktop modelling tool which can draw flowcharts and UML diagrams <https://www.visual-paradigm.com/editions/community/>
2. List the high level features required by the solution by investigating into the gap between the as-is business process model and the to-be model.
3. When you are presenting, make sure you talk through the rationale, not just presenting a solution/process.
4. Optional resources

* Human Needs, Human-Centred Design, and Design Thinking <https://medium.com/@anggitaprameswarap/design-thinking-human-centered-human-needs-and-design-knowledge-6c2f7749c44c> (20 mins)
* The Unified theory of human-centred design <https://uxdesign.cc/the-unified-theory-of-human-centred-design-and-its-success-the-wheel-of-innovation-dbafd5ed12b4> (20 mins)
* Stamford Design Thinking process overview <https://www.youtube.com/watch?v=lJetqXSlNzI> (5 mins)
* Stamford professor explains Design Thinking <https://www.youtube.com/watch?v=U499U4TcyY8> (1 hour)
* d.school Design Thinking Bootleg Deck <https://static1.squarespace.com/static/57c6b79629687fde090a0fdd/t/5b19b2f2aa4a99e99b26b6bb/1528410876119/dschool_bootleg_deck_2018_final_sm+%282%29.pdf>
* Design Thinking & Doing <https://www.youtube.com/watch?v=bpVzgW8TUQ0> (5 mins)
* Design Thinking Mindsets   
  <http://www.designkit.org/mindsets> (15 mins)

## Appendix D – Tasks for Data Analysts

If you are in the Data Analyst pathway, complete the following tasks as part of the Mission:

* + 1. Download and familiarise yourself with PowerBI by following a tutorial from Excel to Visualisation. The following resources may help:
* MANDATORY Download and install PowerBI Desktop <https://powerbi.microsoft.com/en-us/downloads/>
* PowerBI tutorial from Excel to Visualisation <https://docs.microsoft.com/en-us/power-bi/create-reports/desktop-excel-stunning-report> (2 hours)
  + 1. Load the vehicle insurance data collected from the business [Data Analyst - insurance sales.xls] into PowerBI Desktop. Perform any necessary cleaning of data. In PowerBI, model the data into 3 separate tables: “customer”, “policy”, and “date”. The following resources may help:
* RECOMMENDED Power BI training – from flat file to data model <https://www.youtube.com/watch?v=vjBprojOCzU> (15 mins)
* RECOMMENDED Power BI training – data modelling best practices <https://www.youtube.com/watch?v=kiVXI7zjSzY> (15 mins)
* OPTIONAL Comprehensive beginner Power BI training <https://portal.enterprisedna.co/p/ultimate-beginners-guide-to-power-bi> (3 hours)
  + 1. You are going to tackle the user story “As a sales manager in Turners, I would like to find ways for my team to sell more cars so that we can increase revenue for Turners”. Create Visualisation of the insurance sales data in PowerBI, and explain insights that may help Turners Car Auctions increase its sales. The following resources may help:
* RECOMMENDED Making PowerBI Dashboards <https://www.skillshare.com/classes/Microsoft-Power-BI-Complete-Beginners-Guide-to-Financial-Dashboards/1162665939>