

Software Development – 2024

Unit 3 Outcome 2 and Unit 4 Outcome 1 – Student template for planning the School-assessed Task (SAT) – Blank

Key knowledge	Key skills	SAT Criterion	SAT Indicators
<ul style="list-style-type: none"> features of project management using Gantt charts, including the identification and sequencing of tasks, time allocation, dependencies, milestones and critical path 	<ul style="list-style-type: none"> create, monitor and modify project plans using software 	1. Skills in project management.	<ul style="list-style-type: none"> Prepares a Gantt chart using software that documents all stages and activities of the problem-solving methodology for U3 O2 and U4 O1. Documents all the relevant tasks, sequencing, time allocations, milestones, dependencies and critical path.

SAT Plan

Key knowledge	Key skills	SAT Criterion	SAT Indicators
<ul style="list-style-type: none"> development model approaches, including agile, spiral and waterfall 	<ul style="list-style-type: none"> select and justify the use of an appropriate development model 	<p>2. Skills in the selection and justification of a development model.</p>	<ul style="list-style-type: none"> Documents the use of the selected development model approach. Documents the justification of the selected development model approach.

SAT Plan

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<ul style="list-style-type: none"> techniques for collecting data to determine needs and requirements, including interviews, observation, reports and surveys functional and non-functional requirements constraints that influence solutions, including economic, legal, social, technical and usability factors that determine the scope of solutions features and purposes of software requirement specifications tools and techniques for depicting the interfaces between solutions, users and networks, including use case diagrams created using UML features of context diagrams and data flow diagrams goals and objectives of organisations and information systems key legal requirements relating to the ownership and privacy of data and information 	<ul style="list-style-type: none"> select a range of methods to collect and interpret data for analysis apply analysis tools and techniques to determine solution requirements, constraints and scope document an analysis as a software requirements specification 	<p>3. Skills in using analytical tools and techniques.</p>	<ul style="list-style-type: none"> Documents data for analysis using appropriate data collection methods. Uses all the appropriate features of the selected analytical tools. Depicts all the relationships between data, users and digital systems. Documents evidence of critical and creative thinking through the identification, clarification and critical analysis of the data collected.
		<p>4. Skills in documenting a software requirements specification.</p>	<ul style="list-style-type: none"> Documents the functional and non-functional requirements, constraints and scope as part of the SRS. Documents the technical environment and the intended audience of the solution as part of the SRS. Documents evidence of critical and creative thinking through the use of questions and strategies to critically analyse solution requirements.

SAT Plan

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<ul style="list-style-type: none"> • security considerations influencing the design of solutions, including authentication and data protection • techniques for generating design ideas • criteria for evaluating the alternative design ideas and the efficiency and effectiveness of solutions • methods of expressing solution designs using data dictionaries, mock-ups, object descriptions and pseudocode • factors influencing the design of solutions, including affordance, interoperability, marketability, security and usability • characteristics of user experiences, including efficient and effective user interfaces 	<ul style="list-style-type: none"> • generate alternative design ideas • develop evaluation criteria to select and justify preferred designs • produce detailed designs using appropriate design methods and techniques 	<p>5. Skills in designing the software solution.</p>	<ul style="list-style-type: none"> • Generates alternative design ideas. • Develops evaluation criteria with reference to design ideas and the efficiency and effectiveness of the software solution. • Produces preferred design for the software solution. • Documents evidence of critical and creative thinking through design ideas, solution requirements and justification of preferred designs.
<p>SAT Plan</p>			

Key knowledge	Key skills	SAT Criterion	SAT Indicators
<ul style="list-style-type: none"> procedures and techniques for handling and managing files and data, including archiving, backing up, disposing of files and data and security ways in which storage media, transmission technologies and organisation of files affect access to data uses of data structures to organise and manipulate data processing features of a programming language, including classes, control structures, functions, instructions and methods characteristics of efficient and effective solutions techniques for checking that coded solutions meet design specifications, including construction of test data validation techniques, including existence checking, range checking and type checking 	<ul style="list-style-type: none"> develop a software solution and write internal documentation select and apply data validation and testing techniques, making any necessary modifications propose and implement procedures for managing data and files 	<p>6. Skills in using a programming language to develop the software solution.</p>	<ul style="list-style-type: none"> Uses a range of appropriate processing features. Writes comprehensive internal documentation. Applies appropriate validation techniques. Documents evidence of critical and creative thinking through the modification of designs and evaluation criteria.
		<p>7. Skills in managing data and files, and testing the software solution.</p>	<ul style="list-style-type: none"> Organises and manipulates appropriate data structures efficiently to manage data and files. Proposes and implements procedures to manage the security of data and files. Documents the use of testing techniques and test data.

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<ul style="list-style-type: none"> techniques for testing the usability of solutions and forms of documenting test results 	<ul style="list-style-type: none"> prepare and conduct usability tests using appropriate techniques, capture results, and make any modifications to solutions 	<p>8. Skills in conducting usability testing.</p>	<ul style="list-style-type: none"> Preparation and conduction of usability tests. Documents the results of the usability tests. Documents the modifications to the software solution based on the results of the usability testing.

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<ul style="list-style-type: none"> strategies for evaluating the efficiency and effectiveness of software solutions ... factors that influence the effectiveness of development models 	<ul style="list-style-type: none"> apply evaluation criteria to evaluate the efficiency and effectiveness of the software solution evaluate the effectiveness of the selected development model 	<p>9. Skills in evaluating the software solution.</p>	<ul style="list-style-type: none"> Proposes strategies for evaluating the efficiency and effectiveness of the software solution. Documents the evaluation of the efficiency and effectiveness of the software solution in meeting requirements. Documents the evaluation of how the development model assisted in the development of the software solution. Documents evidence of critical and creative thinking through the evaluation of the analysis, design and development stages and improvements to the solution.
<p>SAT Plan</p>			

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<ul style="list-style-type: none"> techniques for recording the progress of projects, including adjustments to tasks and timeframes, annotations and logs ... and assessing project plans 	<ul style="list-style-type: none"> monitor, modify and annotate project plans as necessary assess the effectiveness of the project plan in managing the project 	<p>10. Skills in assessing the project plan.</p>	<ul style="list-style-type: none"> Documents the modifications made to the initial project plan throughout the duration of the project. Assesses the effectiveness of the project plan.

SAT Plan