SE 216 – SOFTWARE PROJECT MANAGEMENT
PROJECT RISKS DOCUMENT

PROJECT NAME: **TRUE POSTURE**

GROUP MEMBERS: **Section 1 Group 8**

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Project GitHub Account

https://github.com/SE216-8/TruePosture

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PROJECT RISKS DOCUMENT

LIKELIHOOD RANK	RISK DESCRIPTION
1	**Lifetime Estimation Errors:** Estimating wrong about how long the project will take because cannot see all the hard parts or didn't realize how much work there is can make us rush or make the project take longer. This can cost more money and make people not trust us.
2	**Communication Problems:** Project progress may be impacted by requirements misunderstandings or unfulfilled expectations brought on by a lack of communication within the team or with the client.
3	**Motion detection accuracy** Our project aims to identify activities performed with dumbbells or on exercise machines. The implementation of the motion and image processing algorithms required for accurate detection could be challenging. If movements are not identified correctly, exploring alternative image processing algorithms will be necessary.
4	**Algorithm Performance and Accuracy:** Algorithms that are not sufficient in terms of accuracy may not provide the desired performance instantly during the image processing stage. In addition, risks such as training time and expense arising from the use of new and complex algorithms may slow down the progress of the project and cause an increase in costs.
5	**Security Vulnerabilities:** Security flaws introduced during the project building stage might quickly expose the system to hacking and data theft. In this situation, getting the required consents from individuals could become extremely challenging and could lead to the project's termination.
6	**Requirements Volatility:** Throughout a project, a lot of needs can change, which can impact the project's goals and cause delays and financial overruns. Stakeholders may need to add additional needs during project construction, or hardware malfunctions may cause them. Time and expense rise as a result.
7	**Cloud Computing Costs:** In this project, we utilize cloud computing, and each provider(Amazon, Google, Microsoft) that we inspect in the previous document has some pros and cons. We have chosen Amazon because of the low cost and greater usability. In the future “Amazon Cloud Computing Services” may become more expensive.
8	**Inefficient backend:** An increase in the number of the users could impact various aspects of our project. The backend may become insufficient if too many people use the app. To address this issue, we plan to use docker to containerize both the app itself and environments. This approach will enable us to scale our app’s backend efficiently using container orchestration tools (e.g., Kubernetes) in the cloud.
9	**Debugging:** The project may not be completed on schedule if a successful debugging procedure is not used throughout the project construction phase. This is because fixing faults will take more time and money.
10	**Cloud Providers:** In the future, Cloud provider that we have selected may shut down their services. In that case we might face trouble “migrating” our project to other cloud providers such as Google or microsoft.
11	**Testing:** The product could be difficult to test due to the variety of the phone types and their environments. Thanks to Docker for containerizing tools, we will be able to test our app as it has been developed.

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IMPACT RANK	RISK DESCRIPTION
1	**Motion Detection Accuracy:** Our project aims to identify activities performed with dumbbells or on exercise machines. The implementation of the motion and image processing algorithms required for accurate detection could be challenging. If movements are not identified correctly, exploring alternative image processing algorithms will be necessary.
2	**Lifetime Estimation Errors:** Estimating wrong about how long the project will take because cannot see all the hard parts or didn't realize how much work there is can make us rush or make the project take longer. This can cost more money and make people not trust us.
3	**Cloud Providers:** In the future, Cloud provider that we have selected may shut down their services. In that case we might face trouble “migrating” our project to other cloud providers such as Google or microsoft.
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6	**Algorithm Performance and Accuracy:** Algorithms that are not sufficient in terms of accuracy may not provide the desired performance instantly during the image processing stage. In addition, risks such as training time and expense arising from the use of new and complex algorithms may slow down the progress of the project and cause an increase in costs.
7	**Requirements Volatility:** Throughout a project, a lot of needs can change, which can impact the project's goals and cause delays and financial overruns. Stakeholders may need to add additional needs during project construction, or hardware malfunctions may cause them. Time and expense rise as a result.
8	**Inefficient Backend:** An increase in the number of the users could impact various aspects of our project. The backend may become insufficient if too many people use the app. To address this issue, we plan to use docker to containerize both the app itself and environments. This approach will enable us to scale our app’s backend efficiently using container orchestration tools (e.g., Kubernetes) in the cloud.
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10	**Testing:** The product could be difficult to test due to the variety of the phone types and their environments. Thanks to Docker for containerizing tools, we will be able to test our app as it has been developed.
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LIKELIHOOD RANK	IMPACT RANK	COMBINED RANK	RISK DESCRIPTION
1	2	3	**Lifetime Estimation Errors:** Estimating wrong about how long the project will take because cannot see all the hard parts or didn't realize how much work there is can make us rush or make the project take longer. This can cost more money and make people not trust us.
3	1	4	**Motion Detection Accuracy:** Our project aims to identify activities performed with dumbbells or on exercise machines. The implementation of the motion and image processing algorithms required for accurate detection could be challenging. If movements are not identified correctly, exploring alternative image processing algorithms will be necessary.
5	4	9	**Security Vulnerabilities:** Security flaws introduced during the project building stage might quickly expose the system to hacking and data theft. In this situation, getting the required consents from individuals could become extremely challenging and could lead to the project's termination.
4	6	10	**Algorithm Performance and Accuracy:** Algorithms that are not sufficient in terms of accuracy may not provide the desired performance instantly during the image processing stage. In addition, risks such as training time and expense arising from the use of new and complex algorithms may slow down the progress of the project and cause an increase in costs.
2	9	11	**Communication Problems:** Project progress may be impacted by requirements misunderstandings or unfulfilled expectations brought on by a lack of communication within the team or with the client.
5	7	12	**Cloud Computing Costs:** In this project, we utilize cloud computing, and each provider(Amazon, Google, Microsoft) that we inspect in the previous document has some pros and cons. We have chosen Amazon because of the low cost and greater usability. In the future “Amazon Cloud Computing Services” may become more expensive.
6	7	13	**Requirements Volatility:** Throughout a project, a lot of needs can change, which can impact the project's goals and cause delays and financial overruns. Stakeholders may need to add additional needs during project construction, or hardware malfunctions may cause them. Time and expense rise as a result.
10	3	13	**Cloud Providers:** In the future, Cloud provider that we have selected may shut down their services. In that case we might face trouble “migrating” our project to other cloud providers

			such as Google or microsoft.
8	**8**	**16**	**Inefficient Backend:** An increase in the number of the users could impact various aspects of our project. The backend may become insufficient if too many people use the app. To address this issue, we plan to use docker to containerize both the app itself and environments. This approach will enable us to scale our app's backend efficiently using container orchestration tools (e.g., Kubernetes) in the cloud.
9	**11**	**20**	**Debugging:** The project may not be completed on schedule if a successful debugging procedure is not used throughout the project construction phase. This is because fixing faults will take more time and money.
11	**10**	**21**	**Testing:** The product could be difficult to test due to the variety of the phone types and their environments. Thanks to Docker for containerizing tools, we will be able to test our app as it has been developed.