

UTILIZATION OF GEOLOCATION FOR MONITORING DUAL SYSTEM EDUCATION

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Abstract

Implementing Dual System Education (DSE) for SMK Tut Wuri Handayani students for 3 months requires the guidance teacher to visit the industry where DSE is implemented. However, if teachers cannot attend because of other activities that cannot be postponed, then visits to the industry where DSE is carried out will be hampered. For this reason, an application or system is needed that can be used to solve the problem of industrial visits to the DSE place. The research that has been carried out produces an application or geolocation system to monitor the attendance and activities of students in places implementing DSE

Keywords: Application; Geolocation; Dual-System; Education

INTRODUCTION

The development of education delivery. It cannot be separated from human progress in thinking about education. SMK Tut Wuri Handayani Makassar is a vocational secondary education that applies Dual System Education (DSE) which is mandatory for grade 3 odd semester students. SPG is carried out for 3 months in the business or industrial world in Makassar City and outside Makassar City.

In its implementation, the supervisor will visit once a month to the place where students carry out DSE to monitor the activities carried out by students. Suppose the supervisor does not monitor students in DSE activities and only refers to the daily activity journal given to students. In that case, students will not be disciplined or serious about implementing DSE, so the school's goal of providing real-world work experience is not achieved properly. Monitoring students who carry out DSE at SMK Tut Wuri Handayani Makassar is still very lacking in knowing student attendance and student activities, what is done every day. Although the school has provided a journal of daily activities to fill out, these activities are not enough to ensure the authenticity of the activities carried out by students.

Based on this, a system was created, "Utilization of Geolocation for Monitoring Students who Carry out Dual Web-Based Mapping System Education", which can be used to monitor students in real-time without having to visit one by one where students carry out DSE. The formulation of the problem to be discussed is how to monitor the activities carried out by students at the DSE place, using Geolocation to see the location of students on the web map. The target of using this system is the DSE Committee, namely, Monitoring Teachers and Students of SMK Tut Wuri Handayani Makassar.



MATERIALS AND METHODS

The research method used is descriptive research, which describes precisely the characteristics of a particular individual, state, symptom or group, or to determine whether there is a relationship between a symptom and other symptoms in society. The data collection techniques that the author did were observation and literature study.

RESULTS AND DISCUSSIONS Main Menu Implementation

Research carried out for 6 months resulted in a geolocation application to monitor the activities of students who carry out SPG in the industry. The application consists of several menus, including:

Main Menu

The main menu is the menu that first appears when the system is accessed, and this menu contains news information and articles about SMK Tut Wuri Handayani Makassar. DSE admin/staff can only process this information by displaying announcement information about DSE. It can be seen in Figure 1.

👪 SMK TET WERE HANDAVANE	Q Search
☆ Home	±² PENGUMUMAN
- El Login	Informasi Pendaftaran Siswa Baru
	변 Kamis, 13 Agustus 2020 20:55 ▲ Oleh: Admin SMK TUT WURI HANDAYANI MAKASSAR
	SMK (SMKK) TUT WURI HANDAYANI Makassar
	12 Minggu, 09 Agustus 2020 [2:28 호 Oleh: Admin SMK TUT WURI HANDAYANI MAKASSAR
	Jumlah: 2 postingan

Figure 1. Implementation of Main Menu

Login Menu

The login menu is a menu that appears when accessing the system by pressing the login button, entering the username and password that corresponds to the account that has been registered, and selecting the access rights you want to log in, namely DSE admin/staff access rights, guidance teachers and student access rights as in figure 2.



👶 SWK TET WTEE HANDGANI	Q Search	
A Home	Home » User Login	
- Login		Login Area
		Username
		Password
		- Plih Hak Akses - 🗸 🗸
		Login
		Batal
		Perhatian: Pastikan username dan password sudah di isi dengan benar!

Figure 2. Login Menu

DSE Admin/Staff Menu

DSE staff menu to manage department data, class data, student data, teacher data, company data, tutor data, and determine placements and student guidance teachers and manage announcement information. The DSE Admin/Staff menu can be seen in Figure 3.

👶 SNK TIT WERI HANDANANI	Q Search			e
A Home	Home » Data Jurus	ian		
🖿 Data Master 🔍	Data Ju	ırusan		
🛛 Data Jurusan	Tambah	Data Download	Ketik nama jurusan	Search
🛎 Data Guru				
	NO.	ID JURUSAN	NAMA JURUSAN	OPTION
🛍 Data Kelas	1	TSM	TEKNIK SEPEDA MOTOR	× •
💼 Data Perusahaan	2	TAB	TEKNIK ALAT BERAT	× •
Data Pembimbing	3	TAV	TEKNIK AUDIO VIDIO	2.1
₿ Data Periode ► Data Penempatan	4	TKR	TEKNIK KENDARAAN RINGAN	Z. 1
👷) Pengumuman	5	ТКЈ	TEKNIK KOMPUTER JARINGAN	2 T
🕒 Logout	6	TITL	TEKNIK INSTALASI TENAGA LISTRIK	2 1

Figure 3. DSE staff menu

Manage Student Data Admin Menu

The admin menu to manage student data contains, among others: nis, student name, gender, class, major, place of birth, address, phone number, photo, email, username and password that students will use to be able to log in to this system, as shown in figure 4.



😼 SMK TI T V TRI MAADAAAA	٩	Search								
A Home	Ho	me » Data Sisv	ra							
🗖 Data Master 🕔	~	Data Siswa/Siswi								
🛛 Data Jurusan		Tamba	h Data Downloa	ad Lihat Sesuai Kelas		Ketik nama sisw	/a		Search	
88 Data Siswa		NO.	NIS	NAMA SISWA		L/P	KELAS	OPTION		
🛍 Data Kelas		1	189816	Wahyudi		L	2 TAV	۹ 🖌 🔳		
💼 Data Perusahaan		2	189820	Putri Alya Ramadhan		Р	2 TAV	s 🖌 🖬		
🔹 Data Pembimbing		3	189821	Aura Pricillia		р	2 TAV	۹ Z I		
₿ Data Periode ₱ Data Penempatan		4	189822	Velicia Anggraeni		Р	2 TAV	9 Z I		
🔊 Pengumuman		5	189824	Aldhy Habu		L	2 TAV	s 🖌 🖬		
🕒 Logout		6	189802	Muh. Susilo Prasetya		L	2 TAB	s / 1		
		7	120207	Muh Dieki Ma'Arif		1	2 TAR			

Figure 4. Menu to manage student data

Admin Menu Manage Teacher Data

The admin menu to manage teacher data consists of nip, teacher name, gender, date of birth, address, phone number, photo, email, username and password that the teacher will use to be able to log in to this system, as shown in figure 5.

👪 SAK ULL ALBU HANDANI	Q, Search					
🔒 Home	Home » Data Gur	u				
🗖 Data Master 🗸 🗸	Data G	uru				
	Tamba	h Data Download	Ketik nar	na guru		Search
🚢 Data Guru						
	NO.	NIP	NAMA GURU	L/P	NO. TELP.	OPTION
🛍 Data Kelas	1	004475765838732	Kasmawati L	Р	085238794442	۹ 🖌 🔳
👛 Data Perusahaan	2	197406212005021	Misbar Thahir	L	085276598435	Q 🖌 🖬
Data Pembimbing Data Periode	3	084777267312171	Agus Kala Padang	L	085234426732	9 🖌 👔
😰 Data Penode 🏴 Data Penempatan	4	113476866918789	Asri T	L	081387873690	9. Z I
🖭 Pengumuman	5	165576566710080	Muh. Syafri	L	085344986702	9. Z I
🕒 Logout	6	263476466510011	Saparudding	L	081278548922	s. Z. I
	7	E 4717401 4477474	Haiazak	n	00500000747	· · ·

Figure 5. menu to manage teacher data

Admin Menu Manage Placement Data

Admin menu manages placement data to input data where students will be placed to carry out DSE, including nis, Supervisor ID: the teacher who will guide during DSE, company ID: where students are placed and period ID: in what period students are placed, as shown in figure 6.



🙆 SMK TET WER BANDWAN	Q. Search	۲
A Home	Home > Tambah Data Penempatan	
🖿 Data Master	Tambah Data Penempatan	
🔊 Pengumuman	NIS*	
🕞 Logout	- Silahkan Pilih NIS -	~
	ID Pembimbing	
	- Silahkan Pilih ID Pembimbing -	~
	ID Perusahaan '	
	- Silahkan Pilih ID Perusahaan -	~
	ID Periode*	
	- Silahkan Pilih ID Periode -	~
	Simpan Data	
	_	
	*Data tidak boleh kosong!	

Figure 6. Manage placement data

Student Menu Implementation

Implementation of student menus to manage daily journals and chats and can see student data, company data, supervisor data and placement data previously inputted by DSE admins/staff, as shown in Figure 7.

🚯 SMK TET WERE HANDOWNI	Q Search
A Home	±9 PENGUMUMAN
🖿 Data Master >	Informasi Pendaftaran Siswa Baru
Dhat	변 Kamis, 13 Agustus 2020 20:55 초 Oleh: Admin SMK TUT WURI HANDAYANI MAKASSAR
🕞 Logout	SMK (SMKK) TUT WURI HANDAYANI Makassar
	11 Minggu, 09 Agustus 2020 22-28 초 Oleh: Admin SMK TUT WURI HANDAYANI MAKASSAR
	Jumlah: 2 postingan

Figure 7. Student menus

Student Daily Journal Input Menu

Student daily journal input menu to manage daily journal data or activities carried out by students during DSE, including nis, date when carrying out activities, activity names, DSE location place names, maps to get student locations, activity descriptions and activity photos, as shown in figure 8.



👶 SMK TET WERE BAADANAN	Q, Search) Î
🔒 Home	Home × Tambah Data Jurnal	
Data Master >	Tambah Data Jurnal Harian	
🖻 Jurnal Harian	NIS'	
🔎 Chat	189784	_
[≁ Logout	Tanggal dd/mm/yyyy	
	Nama Kegiatan Mengganti ban motor Tulis <i>Nama Kegiata</i> n yang Anda kerjakan	
	Nama Lokasi Tempat PSG PT. Honda Makassar	
	-5.1437436 119.45842460000001	
	Dapatitan Lokasi	

Figure 8. Student daily journal input

View the Location menu for student

This menu is used to see the location of the student, whether the student is in the location of the DSE place or not, as shown in Figure 9.

Home	Kone
Data Master >	Detail Lokasi
Jurnal Harian	
Chat	Map Satellite Unp Batu Alam Unp Batu Alam
Logout	Bala Bear Meteorolog Klimatologi Dan.
	Aspoi Panaikang B Kodam XIV Hasanuddin C SMK KARTIH
	BTN Gardenia Bhayangkari Makassar Pahlawan Panaikang D
	iria Rumah Malan Ulu Julur 🖗 ra 🗣
	DEV Makanear
	sbunning Futsal Elektrik Scopegleatan Scopeglea
	Mag das 8000 "Fens of Des Reports into envir

Figure 9. Location menu for students

Chat menu for students

This menu is on the student login that the student and the supervising teacher use to exchange information, as in Figure 10.



👶 SNK THT WER HAADGAM	Q, Search	P
A Home	Home	
🖿 Data Master 🛛 👌	CHAT	
🖨 Jurnal Harian		
Dhat	Waalikumsalam nak, sudah ibu setujui jurnal harian kamu Hajarah 🛦 17 Aug 2020 10:27:56 🛱	Care of the second
🗗 Logout	Assalamualaikum Bu, Saya sudah mengisi jurnal harian mohon untuk diperiksa bu Alifuti Audita Ramadani 🛓	
	17 Aug 2020 10:26:18 🖽	P
	Assalamualaikum Dimas Hidayah ± 14 Aug 2020 14-40-58 (3	
	ringede inteleded	
	Assalamualaikum Pak Abdul Asisi 🔺 14 Aug 2020 11:54:03 🛱	?
	H AUG ZUZU 11.04.00 B	
	Ketik sesuatu	

Figure 10. Menu Chat Untuk Siswa

Student Menu View Validated Activities

The student menu sees activities that their supervisor has validated if the supervisor has approved the student's daily journal report, the print symbol will change to blue, as shown in Figure 11.

👸 SNK TIT VIELENDON	Q Sear	Q, Search								
🕈 Home	Home »	Home » Data Jurnal								
🖿 Data Master 🛛 🚿	Da	Data Jurnal Harian								
🖻 Jurnal Harian		Tambah Data	Download			Ketik nama kegiatan		Sear	ch	
📕 Chat										
🕞 Logout	N	IO. TANGGAL	NAMA Kegiatan	LOKASI Kegiatan	FOT	O KEGIATAN	URAIAN	OP	TION	
	1	2019-03- 16	Mengisi Iaporan	Gowa 😫 Lihat Map		6e58dcbb94cda8c49e7004fa4dd1.jpg ihat Foto	Mengisi data laporan harian	1	8	
	2	2020-03- 20	Mengganti ban motor	PT. Honda Makassar 😰 Lihat Map	0 L	ihat Foto	Mengganti ban motor, membersihkan mesin motor	1	8 0	
							Ju	mlah: 2	kegiatan	

Figure 11. student menu sees activities

Print Student Activities Menu

The menu for printing student activities that have been validated or approved by the supervising teacher can be seen in Figure 12.





Figure 12. Printing student activities

Implementation of the Guidance Teacher Menu

The implementation of the supervisor menu is to chat with students, can only see student data placement data and see student locations and approve student activity journals so that students can print their daily journals, as shown in Figure 13.

👶 SWK TET WERE HANDAGANI	Q Search	3
 SIK TUT STITT STUTT STUTT STUTT STATE Home Data Master Data Master Chat Chat Chat Gout 	Q. Search ▲* PENGUMUMAN Informasi Pendaftaran Siswa Baru Ø Kamis, 13 Agustus 2020 20:55 ▲ Oleh: Admin SMK TUT WURI HANDAYANI MAKASSAR SMK (SMKK) TUT WURI HANDAYANI MAKASSAR Ø Minggu. 09 Agustus 2020 22:28 ▲ Oleh: Admin SMK TUT WURI HANDAYANI MAKASSAR Jumlah: 2 postingan	

Figure 13. Supervisor menu

Student Activity Journal View Menu

The instructor uses this menu to view the activity journal, see the student's location and approve the student's daily journal, as in Figure 14.



🚳 SNK TET VERE HAADGAAT	Q Search							٢	
♠ Home	Home » Data 3	Jurnal							
🖿 Data Master 🛛 👌	Data Jurnal Harian								
📄 Jurnal Kegiatan Siswa	Dov	Download			Ketik nama kegiatan				
📕 Chat	1.7							_	
🕞 Logout	NO.	TANGGAL	NAMA SISWA	NAMA KEGIATAN	LOKASI KEGIATAN	FOTO KEGIATAN	URAIAN	OPTION	
	1	2020-07-21	Alfitri Audita Ramadani	Menginput data	Omastery Academy & Lihat Map	@ Lihat Foto	Meninput data di Microsoft Word dan Microsoft Excel	۰.	
	2	2020-07-07	Andika Pratama	Mengisi Laporan	Omastery Academy R Lihat Map	@ Lihat Foto	Mengisi Laporan	♥ ē	
								Jumlah: O kegiatan	

Figure 14. View the activity journal

Menu to see the student's location

The guidance teacher uses this menu to see the location of students doing DSE, as in Figure 15.



Figure 15. Fiture see the student's location

Student Activity Validation Menu

The supervising teacher uses this menu to approve the student's daily journal that has been inputted. If it has not been approved, the love icon will be blue, and if the supervisor has approved the daily journal, the printer icon will be blue, as in Figure 16.



👵 Sistem Monitoring PSG SMIK 🗆 🗙												
€ → C @								🖂 🔂	IN 🗉 6) 🧧		
🚳 SVIETITETETETETETETE	٩.5	Search									a	^
🛉 Home	Hom	ne » Data J	Durnal									
🖿 Data Master	2	Data	Jurnal Ha	rian								
📄 Jurnal Kegiatan Siswa		Dow	nload		Ketik nama kegia	an			Search			
📕 Chat												
🗗 Logout		NO.	TANGGAL	NAMA SISWA	NAMA KEGIATAN	LOKASI KEGIATAN	FOTO KEGIATAN	URAIAN	0	PTION		
		1	2020-07-21	Alfitri Audita Ramadani	Menginput data	Omastery Academy & Lihat Map	Iihat Foto	Meninput data di Microsoft Word dan Microsoft Excel	4	•		
		2	2020-07-07	Andika Pratama	Mengisi Laporan	Omastery Academy 8 Lihat Map	lihat Foto	Mengisi Laporan	,			
									Jumlah: () kegiata	n	
localhost/geolocation/index.php?page=m	ap_jurnal&id					*						v
📲 🔎 🖽 🍳 📑 🏦	₩ 🖇) 📦 🖾 🕻	102				🔊 ^ A 🚯	🗉 <i>(</i> (; 4))	12:22	020	

Figure 16. Activity Validation

Chat Menu For Teacher

This menu is on the student login used by students and guidance counselors to exchange information, as in Figure 17.

Ø	SMK TIT VIELENADSINI	c	Search			AL AL	
A			Home				
		>	CHAT				
	Jurnal Kegiatan Siswa						
-	Chat		Waalikumsalam nak, sudah ibu setujui jurnal harian kamu	Hajarah 💄 17 Aug 2020 10:27:56 🛱	A MAR		
		Assalamualaikum Bu, Saya sudah mengisi jurnal harian mohon untuk diperiksa bu	Alfitri Audita Ramadani 🚢 17 Aug 2020 10:26:18 🛱	P			
			Assalamualaikum	Dimas Hidayah 🚢 14 Aug 2020 14:40:58 🛱			
			Assalamualaikum Pak	Abdul Asisi ≛ 14 Aug 2020 11:54:03 급	?		
			Ketik sesuatu				

Figure 17. Fiture of Chat For the Teacher



CONCLUSIONS & RECOMMENDATIONS

The research concludes that a geolocation application has been built to monitor activities carried out by students at the DSE place and can monitor the location of students, thus saving costs and time because the monitoring process can be done without having to visit students one by one to the DSE place.

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